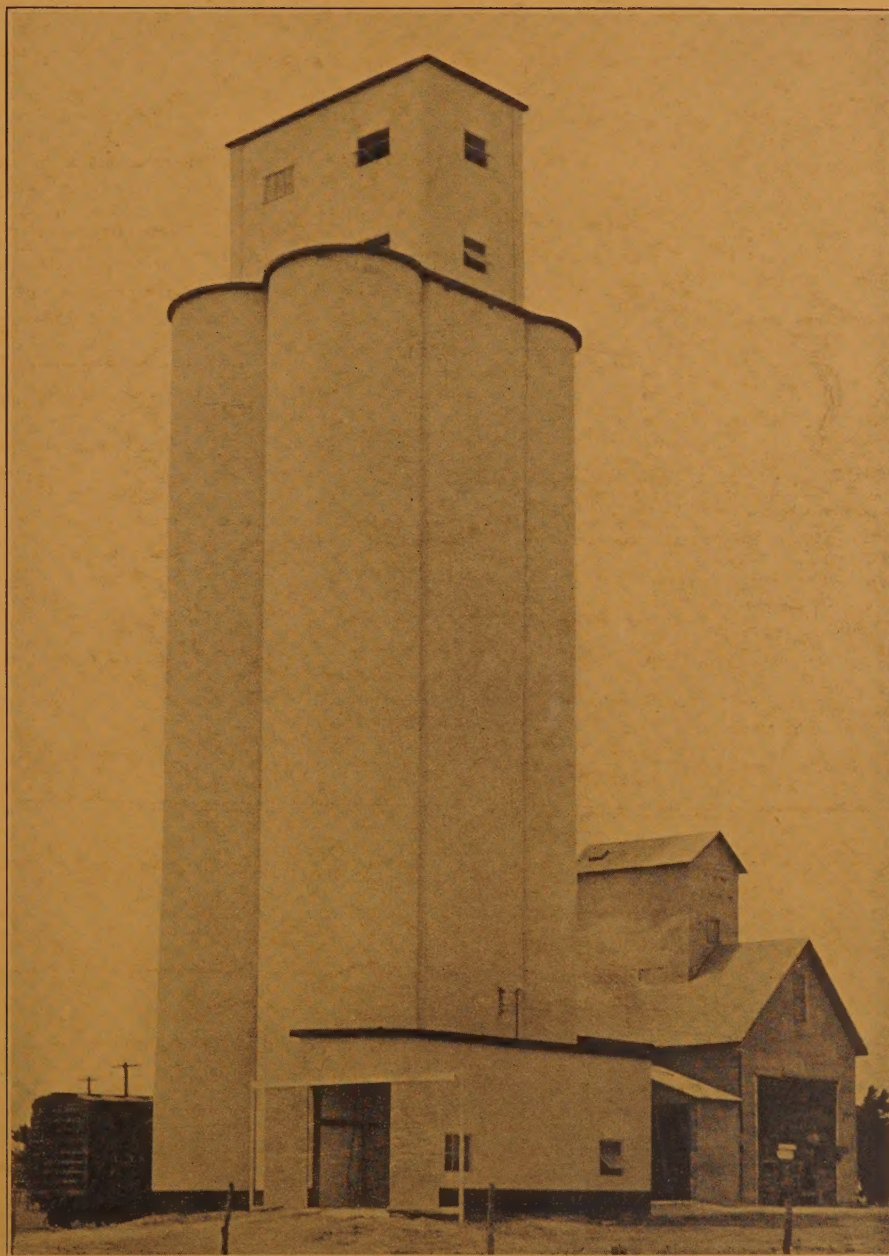


GRAIN & FEED JOURNALS CONSOLIDATED

A Merger of Grain Dealers Journal, American Elevator & Grain Trade, Grain World and Price Current-Grain Reporter



Wall-Rogalsky Milling Co. Elevator at Conway, Kan.
[For description see page 417]

Directory of the Grain Trade

In Organized Markets Only Members of the Local Grain Exchange Will Be Listed

HAVING YOUR name in this directory will introduce you to many old and new firms during the year, whom you do not know or could not meet in any other way. Many new concerns are looking for connections, seeking an outlet or an inlet, possibly in your territory. It is certain that they turn to this recognized Directory, and act upon the suggestions it gives them. The cost is only \$10 per year.

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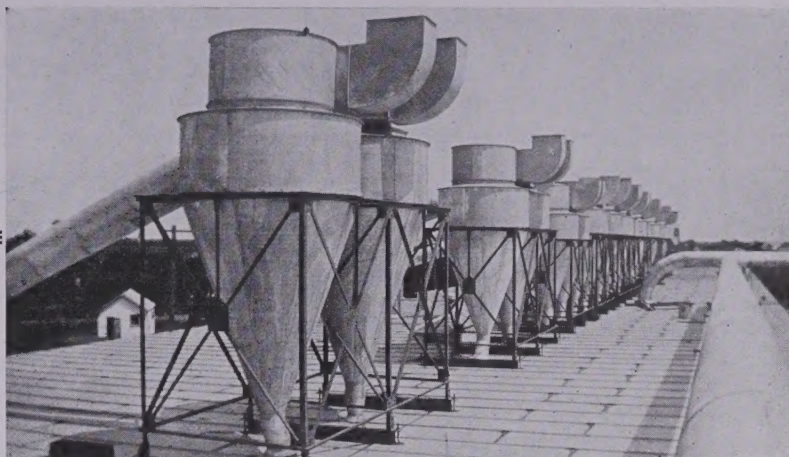
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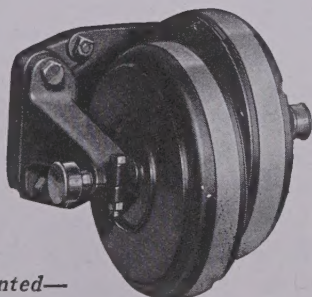
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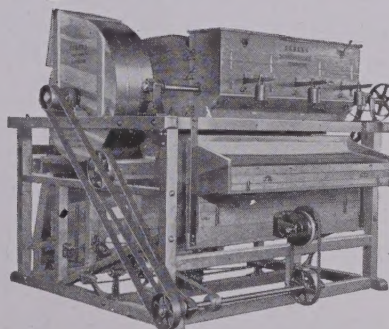


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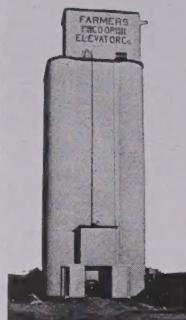
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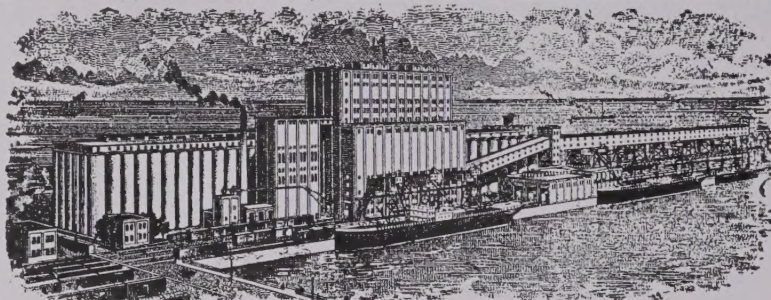
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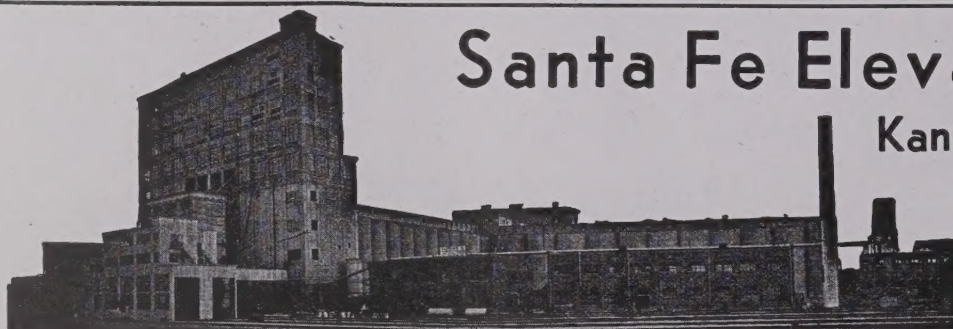
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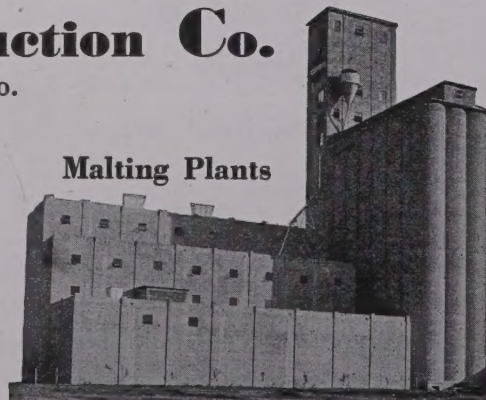
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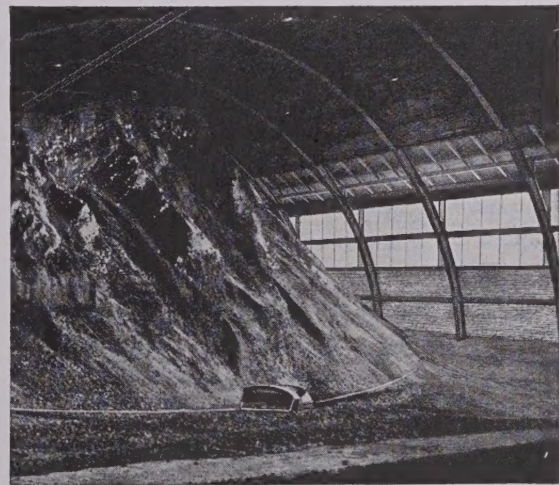
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CORN CUTTER & Grader—has motor—used very little. 86F10, Grain & Feed Jnls., Chicago.

FEED MIXER—one ton—floor level feed—has motor good as new. Write 86F11, Grain & Feed Journals, Chicago, Ill.

HAMMER MILL with 25-h.p. motor and all attachments. Priced to sell. Write 86F12, Grain & Feed Journals, Chicago, Ill.

FEED MIXER for sale, has motor, and a late machine. Need space. Will sacrifice. Write 86F13, Grain & Feed Journals, Chicago, Ill.

FOR SALE—One Howell No. 4 roller mill; 4 rolls, 16 inch diameter by 16 inch face. Excellent condition. Used very little in brewery. Bloomer Brewery, Inc., Bloomer, Wisc.

FOR SALE: A 50 h.p. Jay Bee hammer mill, direct connected; with screens, ammeter, 400 amp. entrance switch and accessories. A 24" Robinson attrition mill complete with two 20 h.p. motors, starting equipment and new buhrs; in A-1 condition. Geo. Todd Construction Co., Ames, Iowa.

FOR SALE—Rebuilt, Guaranteed **HAMMER MILLS**. All Sizes. Direct Connected or Belt Driven. Reasonable prices. **FLOUR MILL**—25 bbl. Midget Marvel with Bleacher, etc. As is \$450. ½-Ton used Burton Mixer \$150. Indiana Grain Machinery Co., 420 S. Meridian, Indianapolis, Ind.

FOR SALE—Complete Feed Mill equipment. Must be moved. In use now and in good condition and working order. Consisting of Ford Hammer Mill with 40 H.P. Motor; One ton Burton Feed Mixer, 3 H.P. Motor; Elevator, 5 H.P. Motor; Truck scale. Priced low for quick sale. Located in Central Illinois. Write 87W5 Grain & Feed Journals, Chicago, Ill.

MACHINES FOR SALE**NEW AND USED EQUIPMENT FOR IMMEDIATE SHIPMENT**

Subject to prior sale

NEW—2 No. 1 Type W Swing Hammer Feed Grinders, belt-drive, or motor-drive—capacity; screenings 400 to 600 lbs. per hour; shelled corn 1000 lbs. per hour.

USED—30-12 GRUENDLER all steel ball bearing Feed Grinder, with or without fan, 25 to 30-HP.

USED—50-16 GRUENDLER "SUPREME" steel plate, ball bearing Feed Grinder for 50 to 75-HP. Slow speed 1800-RPM.

USED—No. 3 GRUENDLER Whirl Beater for 40 to 50-HP.

USED—Type A ZENITH GRUENDLER Feed Grinder for 30-HP.

USED—SCHUTTE Type F, Model L, Feed Grinder for 50 to 60-HP.

USED—WILLIAMS Model A Miller's Special Screenings and Bran Grinder, belt-drive or motor-drive, 600 to 700 lbs. per hour capacity.

USED—No. 3 GRUENDLER Drop Cage Feed Grinder for 40 to 60-HP.

USED—SPROUT, WALDRON 20" ball bearing, belt driven Attrition Mill.

USED—Type K-33 MUNSON, single motor driven Attrition Mill, direct connected to 15-HP. 3 phase, 60 cycle, 220 volt motor.

USED—GRUENDLER 2-S-16 Combination Hay and Grain Grinder with feed table for 50 to 75-HP.

USED—GRUENDLER 18"x30" 150 lbs. capacity Batch Mixer with 3-HP., 3 phase, 60 cycle, 220 volt motor.

USED—No. 3 GRUENDLER Whirl Beater Feed Grinder with 50-HP. motor.

USED—PAPEC Grinder with 50-HP. motor.

USED—No. 4 GRUENDLER 1500 lbs. per hour Batch Mixer, belt driven.

USED—GRUENDLER all stainless steel Food Grinder with 2-HP. motor.

ONE—(1) 150-HP. Fairbanks-Morse 3 phase, 60 cycle, 440 volt, 1800-RPM, slip ring motor with starter.

State fully your requirements.

GRUENDLER CRUSHER & PULVERIZER CO.
2915-17 North Market Street, St. Louis, Missouri.

MACHINES FOR SALE

FOR SALE—Real bargain. One 24" Robinson attrition mill driven by two 15 H.P. motors 220 V. 3-phase; Blower, Dust Collector, 5 H.P. motor. All complete and in good condition. Norris Elevator Co., Norris, Ill.

FOR SALE

One 2S-16 Gruendler Hay Mill complete with 50 H.P. motor; one Miracle Ace Super Hammer Mill direct connected to one 60 H.P. motor; one Midget Marvel Flour Mill complete 50 barrel capacity. D. E. Hughes Co., Hopkins, Mich.

MACHINERY BARGAINS

24" Robinson attrition mill with 2—20 H.P. Motors; 1—24" Monarch motor driven Attrition Mill; 18" Dreadnaught with magnetic Separator; 2 Papee Hammer Mills; Kelley-Duplex Hammer Mill; New Steel King quick screen change; 1-ton Davis mixer; Carter Disc separators; Clipper cleaners; Hopper and Automatic scales; large quantity 8" conveyor complete in Steel Box. A. D. Hughes Co., Wayland, Mich.

MACHINES WANTED

WANTED—Used Tag-Hep or Steinlite Moisture Tester. Write P.O. Box 385, Greensburg, Ind.

WANTED—Used, horizontal one-ton Mixer. Victoria Elevator Company, Minneapolis, Minnesota.

UNION SPECIAL Bag Sewing Head wanted. Address 87W3 Grain & Feed Journals, Chicago, Ill.

WANTED—Used bean elevator equipment such as hopper scales, conveyors, and driers. Benjamin Gerks, Rochester, N. Y.

MINERAL FEEDER

ZIMS NO WASTE MINERAL FEEDER, feeds mineral without waste. Strong, durable, low in price. Every farmer a prospect, a money maker for you both. Write, O. E. Zimmerman, Fairfax, Minn.

Grain Shipping Books

Record of Cars Shipped facilitates keeping a complete record of each car of grain shipped from any station, or to any firm. It has the following column headings: Date Sold, Date Shipped, Car Number, Initials, To Whom Sold, Destination, Grain, Grade Sold, Their Inspection, Discount, Amount Freight, Our Weight Bushels, Destination Bushels, Over, Short, Price, Amount Freight, Other Charges, Remarks. Book contains 80 double pages of ledger paper, size 9½x12 inches, with spaces for recording 2,320 carloads. Well bound in heavy black pebble cloth with red keratol back and corners. Shipping weight, 2½ lbs. Order Form 385. Price \$2.50, plus postage.

Sales, Shipments and Returns. Is designed to save time and prevent errors. The pages are used double; left hand pages are ruled for information regarding "Sales" and "Shipments"; right hand page for "Returns". Column headings provide spaces for complete records of each transaction, one line. Book contains 80 double pages of ledger paper, size 10½x16 inches, with 8-page index. Spaces for recording 2,200 cars. Bound in heavy canvas with keratol corners. Weight, 3½ lbs. Order Form 144A. Price \$3.35, plus postage.

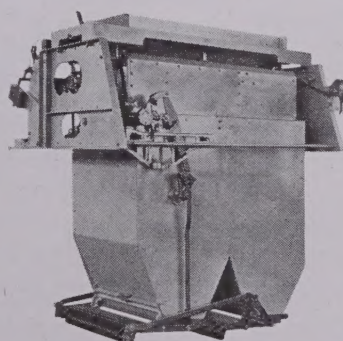
Grain Shipping Ledger for keeping a complete record of 4,000 carloads. Facing pages are given to each firm to whom you ship and account is indexed. Book contains 80 double pages of ledger paper with 16-page index, size 10½x15½ inches, well bound with black cloth covers and keratol back and corners. Weight, 4 lbs. Order Form 24. Price, \$3.50, plus postage.

Shippers Record Book is designed to save labor in handling grain shipping accounts and gives a complete record of each car shipped. Its 80 double pages of ledger paper, size 9½x12 inches, provide spaces for 2,320 carloads. Wide columns provide for the complete record of all important facts of each shipment. Bound in heavy black cloth with keratol back and corners. Shipping weight, 2½ lbs. Order Form 20. Price \$2.50, plus postage.

Grain & Feed Journals
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871

Washington News

Corn in steel bins that has been cleaned will be sold only if other steel bin corn is not available and the price will be one cent per bushel higher than for corn not cleaned. —Commodity Credit Corporation.

The Fulmer bill would allow wheat farmers to sell the normal production of their allotted acreages without payment of marketing penalties in poor crop years. The bill has passed the House; awaits action by the Senate.

The A.A.A. is reported to have added feed conservation to its 1942 farm program. Payment is \$1 per ton for properly stored ensilage on co-operating farms to build up reserves for summer feeding of cattle when pastures become short, and to enable farmers to carry over surpluses from good years to poor years.

A cut in farm relief payments was suggested to a joint congressional committee by Secretary of the Treasury Morgenthau, to save \$1,000,000,000. He said "altho government aid was necessary in order to bring the farmers net income from \$3,125,000,000 in 1932 up to \$8,500,000,000 or more in 1941, certainly after having reached this goal there does not appear to be any reason to continue at the same rate."

The Treasury Department announced Nov. 18 that it had rejected a petition from a group of commodity trading firms for a relaxation of the order covering purchases and sales of commodity futures contracts for the account of blocked nationals. Last month the treasury issued an order limiting commodity futures transactions for these accounts to purchases covering a short position and sales to liquidating long positions acquired prior to Oct. 25.

Wheat farmers planting within their acreage allotments and following soil building practices will enjoy an increase in their conservation payments from the present 8c per bu. to 10.5c per bu. next year, announces the U.S.D.A., because they are asked to reduce their aggregate acreage from 65,000,000 to 55,000,000 acres. The increase in conservation payments will come off payments for corn, cotton, tobacco, rice, potato and peanut producers because these are not asked to reduce allotments. Example: the corn rate will be dropped to 8c per bu. from the present 9c.

Sale at a discount of loan wheat by the C.C.C. to millers for export to South America is provided for in a definite recommendation made by the C.C.C. to the Secretary of Agriculture. Under the wheat export sales plan of Commodity Credit Corporation, flour sales are permitted to Venezuela, Colombia, Ecuador, and to any country or place north of such countries in the Americas and adjacent islands, and to islands east of the Americas lying on or west of 40° West Longitude, and to the Philippine Islands and the Virgin Islands. The plan does not include flour sales to Puerto Rico, Alaska, and the Canal Zone. At the present time, Commodity Credit Corporation holds approximately 174 million bushels of wheat in the 1939 and 1940 wheat pools.

Profit is governed by four things: Fixed expenses, like rent, heat, light, taxes and insurance; pay roll, turnover of merchandise, and mark-up. These are more or less under control of management, restricted, of course, by the buying and selling public, and by competition.

Sharply reduced imports of vegetable oils, plus a prospective short cottonseed crop and reduced cottonseed oil output, have contributed to increasing prices offered for soybeans. A New York report declares soybean processors now receive as much for the oil squeezed from a bushel of beans, as they do for the remaining soybean meal used for livestock feed. Soybeans run from 18% to 22% oil.



THANK the railroads for that addition to the grocer's sign. It is the swift, efficient movement of perishable crops by rail that makes it possible for every village in America to enjoy the benefits of vitamin-rich fresh fruits and vegetables throughout the year.

Rail movement makes the market for perishables national instead of local.

Orderly marketing by rail makes possible specialized crops grown in sections where soil and climate are favorable. And this has led to

marketing associations, grading standards, stabilized price structure, a more adequate return for the producer and assurance of quality and abundant supply for the consumer.

The prosperity of every business in the country is intimately tied up with the prosperity of the railroads, and this is particularly true of farming. Nothing else could supply the efficient, economical mass transportation that is necessary to bring farm products to market.



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GRAIN & FEED JOURNALS

CONSOLIDATED
INCORPORATED

327 S. La Salle St., Chicago, Ill., U.S.A.
Charles S. Clark, Manager

A merger of
GRAIN DEALERS JOURNAL
Established 1898

**AMERICAN ELEVATOR &
GRAIN TRADE**
Established 1882

THE GRAIN WORLD
Established 1928

PRICE CURRENT - GRAIN REPORTER
Established 1844

Published on the second and fourth Wednesdays of each month in the interests of better business methods for progressive wholesale dealers in grain, feed and field seeds. It is the champion of improved mechanical equipment for facilitating and expediting the handling, grinding and improving of grain, feeds and seeds.

SUBSCRIPTION RATES to United States, Canada and countries within the 8th Postal Zone, semi-monthly, one year, cash with order, \$2.00; single copy current issue, 25c.

To Foreign Countries, prepaid, one year, \$3.00.

THE ADVERTISING value of the Grain & Feed Journals Consolidated as a medium for reaching progressive grain, feed and field seed dealers and elevator operators is unquestioned.

Advertisements of meritorious grain elevator and feed grinding machinery and of responsible firms who seek to serve grain, feed and field seed dealers are solicited. We will not knowingly permit our pages to be used by irresponsible firms for advertising a fake or a swindle.

LETTERS on subjects of interest to those engaged in the grain, feed and field seed trades, news items, reports on crops, grain movements, new grain firms, new grain elevators, contemplated improvements, grain receipts, shipments, and cars leaking grain in transit, are always welcome. Let us hear from you.

QUERIES for grain trade information not found in the Journal are invited. The service is free.

INSECTS that are now hibernating in the granaries of the farmers and the C.C.C. during the winter months can be depended upon to exercise their mandibles next spring, unless killed off by fumigation.

SIGNS placed prominently at each entrance warning visitors to **KEEP OUT**, would reduce the number of accidents to visitors and relieve the elevator operator of some worry. Persons having business to transact should be directed to the office.

INGREDIENT COSTS are constantly shifting up and down, affording an opportunity for profit to the feed mixer with some knowledge of compounding rations to have the required digestible nutrients at the lowest cost per ton of finished feed.

The C.I.O. that tried to dictate to the grain dealers and millers in Indiana is finding that the Hoosiers prefer to go into court rather than submit to their un-American rules, and that Indiana courts are not like the Washington administration.

LEAVING any large sum of money in the elevator office safe over night is poor policy, and cost one Illinois elevator operator \$1,000 when burglars paid a visit. When it is noised about that the elevator man keeps much cash in the safe it is a standing invitation to nomadic yeggmen.

WHEN the workingman pays his heavily increased taxes he can console himself with the thought that he has helped the government to increase benefits and income of farmers, from \$907,722,000 in September, 1940, to \$1,325,419,000 in September, 1941, as reported Nov. 24, by the Bureau of Agricultural Economics.

LARGE ATTENDANCE at the nutrition schools conducted under the auspices of state associations and experiment station indicate a commendable thirst for knowledge on the part of the country elevator operator who retails or mixes feeds. His patrons will have a well founded and increased confidence in his feeds and his suggestions on feeding.

IF COUNTRY merchants are to continue to enjoy the right of free enterprise they must protest more vigorously and persistently against the encroachment of Federal bureaucrats on their right to conduct their business in keeping with what they consider fair and reasonable, and free from bureaucratic domination. The legislation now proposed to license every merchant and to regulate his activities according to red tape rules of swivel-chair artists who have never had the courage or enterprise to engage in private business calls for vigorous opposition. The licensing system will surely stifle free enterprise and place thousands of successful business merchants on relief.

RETROACTIVE rulings by the Wage and Hour Division requiring employers to make good alleged underpayments of wages for two or more years back constitute a threat to employers. It is unfair to penalize an employer who has been trying to abide by the law, and has been unable to get an interpretation from official sources on the application of the Act to his business.

MICHIGAN elevators have had to run their driers night and day, as the drying capacity is not sufficient to handle this year's bean crop, which was damaged by water during the heavy October rains. Bean shippers have had to supplement their bean picking machinery by the employment of hundreds of women pickers to remove the discolored beans that get by the machines.

THE RAILWAY Labor Act was passed in 1926 on the demand by the labor unions who were rewarded in 1938 when the Board supported the union position 100 per cent. Now that the present emergency board is supporting the union position only about 30 per cent the unions are forgetting all they said in favor of the Act in 1926, altho their representatives argued then that the Act imposed a moral obligation to abide by it.

THE recent announcement that from the average of 74.8c per bushel corn loans would vary by counties and regions from 69c to 79c is a belated recognition by the Washington bureaucracy of commercial conditions dictating a price differential between surplus producing and consuming areas. Considered as a loan it is immaterial, but when the alleged loan in fact becomes a buying price, having been made without recourse, this hard fact intrudes itself.

RYE mixture is causing heavy loss to wheat growers, grain dealers and millers in many areas where farmers have been careless with their seed. At Wichita, Hutchinson and Wellington during July and August 530 cars were graded down on inspection on account of rye mix. With 2 per cent of rye mix and each car containing an average of 1,500 bus., the average loss per car is \$30 and the total reduction in value \$15,900. Moreover, wheat with more than 3 per cent of rye mix is not eligible for a government loan.

THE SUPERIOR merchandising intelligence of the English never was more manifest than in the recent purchase of 120,000,000 bus. of wheat in Canada. While our Commodity Credit Corporation shies away from the grain pits the British agency chose to buy the future on the Winnipeg Exchange to be exchanged for cash wheat later as needed, for the very good reason that it is cheaper in the end than to follow the clumsy method of the C.C.C. in buying and storing the actual grain at heavy expense for charges, shrinkage and deterioration.

CHICAGO, ILL., NOVEMBER 26, 1941

DOES the Washington price administrator desire to place the ceiling and the floor so close together as to squeeze the life out of the middleman?

WHITE CORN is in demand at a sufficiently higher price over yellow to warrant growers in devoting more of their corn acreage to the more profitable variety.

THE FARTHER away the better, seems to have been the guiding principle of the C.C.C. in storing some 100,000 bus. of Iowa corn in an elevator at Pasco, Wash. Uncle Sam, he pays the freight.

BRAN BUGS are becoming a pest in the Pacific Northwest. In Umatilla County, Oregon, the A.A.A. representative reports old and new elevators have been infested, and that the pest is prevalent in varying degree over the whole county, ascribing the increased infestation to damp wheat and warm weather. Shippers can save most of the cost of terminal market fumigation by using insecticides on grain before shipment.

"NEW TYPES of low cost grain storage structures" is the title of a symposium to be conducted at the Dec. 3 meeting of the American Society of Agricultural Engineers; but the engineers who have built our present big elevators, and sat up nights to think up lower costs are not very enthusiastic over the ability of the agricultural engineers to revolutionize grain elevator design. Their skepticism matches that of the grain merchant for the ever-normal granary.

UNSATISFACTORY interpretations of the Fair Labor Standards Act as applied to the smaller feed mixing and grinding establishments following the issuance of the June bulletin by the Wage and Hour Division, have some prospect of being corrected after the inspection to be made in January, especially if the Division could have drafted into its service men of the mental caliber of the Priorities Office, who categorically answer a question after a complete statement of fact. The January inspection should establish the facts.

More Careful Grading of Country Receipts Imperative

All sections of the grain surplus states are reporting the receipt of more infested grain than ever. The continuous rainfall during September and October has been productive of more grain infesting insects than at any previous period. Then, too, the marketing of old grain stored two and three years ago has brought to light more grain infested with weevil, bran bugs and other destructive insects than ever, so it becomes all important that country grain buyers exercise extra vigilance to detect the infestation of every lot of grain tendered them for sale.

Nearly 8 per cent of the cars of wheat received at Kansas City during October were reported infested with weevil. Grain held long in storage has always been more generally infested than grain of the current crop, hence the marketing of all old grain calls for more careful inspection of buyers than any other. However, farm storage bins have become so completely infested during recent years that even new grain is likely to contain an unusual number of bugs, and repeated fumigation of all bins and infested grain is necessary if the grain is to be saved from the destructive insects and from heavy discounts.

Grain buyers who pay out perfectly good American dollars for insect infested or damaged grain are likely to be deeply disappointed when they ship to market. Central market inspectors are trained and continually prodded by superior officers to exercise greater vigilance. They are kept on their toes and called by the supervising inspectors whenever they become lax in their grading. Country shippers must depend upon their own judgment and watch closely for the factors which are likely

to place their shipments in a low grade.

Many elevator operators who held C.C.C. grain of 1937, '39 and '40 crops in store were grievously put out when their shipments were penalized even more than the total amount of the storage charges earned. The prevailing condition and the low grading of farm stored grain calls for extreme caution and greater vigilance not only in classifying grain receipts, but in thoroughly cleaning and fumigating both grain and storage bins to insure more satisfactory grading when the grain is finally sent to central markets.

Price

The last thing to be stated in a sales presentation is price. What goes before is sales work that justifies the price. What goes before is the difference between a salesman and an order taker.

A sound sales presentation recognizes that few buyers look far beyond their own (or their firm's) self-interest. Therefore the best approach to an order thru salesmanship is thru the buyer's eyes. A salesman's understanding of the buyer's needs, and of the possibilities for profit for the buyer thru use of his product will determine to a large extent the effectiveness of his presentation. This in turn will justify the price.

It is presumed, of course, that the price asked is competitive. Good sales work will not continuously offset an excessive price compared with similar products available. But it will eliminate much of the price-cutting that sometimes dominates certain divisions of the American market.

Larger Units Require Greater Caution

The installation of larger and larger truck scales at country elevators and the ever increasing size of box cars tendered country shippers for loading calls for dependable accuracy in weighing and accounting, else Mr. Grain Buyer is sure to suffer a loss instead of the profit he is striving to attain.

In the small unit days of wagon loads, 20,000 lb. box cars, 10 cent corn, 20 cent oats and 50 cent wheat, a defective scale, or a careless entry clerk did not cost the grain dealer much even though both were wrong. The 40-ton truck scale, the 100,000 lb. box car, the higher grain values, and the other large trade units of the present day call for greater care and caution in every operation if the business is to be conducted on a profitable basis.

Most grain merchants fully recognize the necessity of buying on a wider and a safer margin, carefully grading and discounting all receipts and routing all shipments by the lowest legal rate to the most favorable market. In other words the successful country buyer must be a close, earnest student of modern methods of buying and marketing grain, otherwise one or two blunders may wipe out his year's profits.

Beware Gases From Flaxseed

A deadly gas the presence of which in grain bins has not been hitherto suspected was detected last week by two biochemists of the University of Minnesota in a bin containing flaxseed.

A test of the air above the flaxseed in the bin of the Calumet Elevator at Minneapolis was made in an endeavor to account for the sudden death of a workman who had gone down to determine how much of the seed was heating.

Analysis disclosed that the lethal gas was none other than hydrocyanic acid, the characteristics of which are well known to grain handlers who have made a study of fumigation gases. Hydrocyanic acid gas is the most deadly of all fumigants. Exposure for less than a minute may be fatal even tho the percentage of cyanogen in the atmosphere is small.

Redoubled precautions must be taken against asphyxiation in bins where the presence of this gas is suspected. According to the Minnesota scientists hydrocyanic acid gas is to be expected in bins containing flaxseed that is stored in a wet or partly sprouted condition. The moisture supplies the hydrogen and the oil in the flaxseed, the carbon and nitrogen, while the sprouting speeds up the chemical reaction to generate HCN. Much flaxseed this year was harvested in a wet condition and the heating seed is likely to be encountered in many country and terminal elevator bins.

It is possible that the same may be true of soybeans, which have been harvested this year in a wet condition and likewise contain much oil, so keep out until the air is tested.

While other fumigants such as carbon bisulphide, chloropicrin and methyl bromide are much heavier than air and sink down thru the mass of grain in a bin, hydrocyanic acid gas is light and will penetrate clear to the top of an unventilated bin. Gas masks are not a complete protection, as the poison can be absorbed thru the skin.

It is recommended that the space above the grain in the bin be thoroly ventilated with fresh air; and that a second person should stand by to assist if the person entering the bin is overcome, to haul him out by an attached rope. Many terminal elevator operators instruct workmen to stay out of bins unless strapped in a boswing.

A desirable precaution is a test of the air above the grain by first letting down a caged bird or rabbit. If the test bird shows no ill effects after 10 minutes, the percentage of lethal gas is probably too low to be deadly to the worker.

While some damaged grains make excellent hog feed it is inadvisable to feed damaged flaxseed to animals as the same poison, also known in that case as prussic acid, is likely to cause death.

Conway, Kan., Has New Elevator

A 65,000 bu. reinforced concrete elevator has been placed in operation at Conway, Kan., by the Wall-Rogalsky Milling Co., of McPherson. Conway is the first station west of McPherson, on the Santa Fe railroad.

The elevator consists of four reinforced concrete tanks each 14 ft. in diameter, and six interspace bins over the workfloor. These tanks and bins run 101 ft. above the ground line and are surmounted by a two-story cupola. The receiving driveway, a 14 ft. wide structure, is attached to the side of the elevator, as shown on outside front cover.

Equipment in the elevator includes an Ehrsam overhead truck lift with 5 hp. hoisting motor in the driveway; an Ehrsam electric manlift in the leg well, driven by a 2 hp. motor; a 10 bu. Richardson automatic shipping scale in the cupola; a 3,000 bu. per hr. lofting leg, driven by a 15 hp. Fairbanks-Morse totally enclosed motor thru an Ehrsam head drive. The Calumet type 10x6 inch cups in the leg are bolted at 8½ inch centers on an 11 inch, 5-ply cup belt. All spouting is of 16 and 14 gauge sheet steel. The leg casing is of sheet steel and concrete. Ehrsam formed the sheet metal work.

Rack and pinion operated gates control the flow of grain from the hoppers in bin bottoms back to the boot for turning or shipping.

The elevator was designed and erected by Chalmers & Borton.

Windows Increase Sales

INCREASING INTEREST in merchandise display rooms, and large show windows that will place sideline merchandise handled by grain elevators prominently under the farmers eye, is being manifested by grain elevator owners and managers to an encouraging degree. Wherever one of these contemplates construction of a new office, his plans include counters and display tables.

This attitude adds up to sound merchandising sense, and belies the mild criticism leveled at elevator operators occasionally by allied tradesmen who want to see a greater volume of their merchandise sold to the farm trade thru the elevators. This criticism is to the effect that if the elevator managers would make greater effort to properly stock and display sideline merchandise they could reap the cream of the business in these lines because they have a natural first contact with the farmers. The elevator buys the farmers' grain; why should these farmers go elsewhere for their farm supplies? The answer is that they don't need to go elsewhere if the elevator stocks what they want, and gets these stocks out where they can be seen.

Of course, there is the credit bugaboo. Credit becomes a bugaboo when it gets out of hand. Credit, watchfully and carefully extended, will turn up a good harvest of profitable business; but if carelessly handled it will turn just as readily into distressing losses.

Reducing Income Taxes by Charity Contributions

Charity payments by individuals can be increased up to 30 per cent over last year at Uncle Sam's expense, according to a study made by Seidman & Seidman, certified public accountants. This is because charitable contributions, within 15 per cent of one's income, are deductible in figuring income taxes, and the increased tax rates for 1941 mean more tax saving than last year.

For example, a person with a \$50,000 income last year came in the 48 per cent tax bracket. If he made a contribution of \$5,000, the government stood 48 per cent, or \$2,400, making the actual cost to him \$2,600. This year, with the government standing 59 per cent of deductions from a \$50,000 income, he could contribute \$6,350 and still bear only \$2,600 of it. In other words, he could increase his charity by \$1,350, or 27 per cent, without it costing him anymore than last year.

The Seidman & Seidman study sets forth the following tabulation to show, at different levels of income, the part the government stands this year of any charitable contribution, and the increased payment a contributor can make this year over last, without any increased cost to him.

Income	Govt. Stands	Incr. Charity
\$1,500 to \$2,000	10 per cent	6%
\$3,000 to \$4,000	13 per cent	10%
\$5,000 to \$6,000	17 per cent	11%
\$8,000	21 per cent	13%
\$10,000	25 per cent	16%
\$20,000	42 per cent	26%
\$30,000	51 per cent	28%
\$40,000	57 per cent	30%
\$50,000	59 per cent	27%
\$60,000	61 per cent	21%
\$75,000	65 per cent	17%

Corporations likewise have a tax cushion from 9 to 36 per cent for increased 1941 charity payments. In the case of corporations that do not have to pay an excess profits tax, an increase of 9 to 11 per cent over last year's charity would come out of the government's pocket.

If a corporation has to pay the 35 to 60 per cent excess profits tax, the increased 1941 contribution it can make out of the tax savings, ranges from 27 to 36 per cent, depending on how high in the rate scale the corporation comes. Seidman & Seidman show the figures to be as follows:

Tax Rate	Incr. Charity
35 per cent	27%
40 per cent	29%
45 per cent	30%
50 to 55 per cent	35%
60 per cent	36%

Thus, if a corporation contributed \$1,000 in 1940, and it now comes in the 45 per cent excess profits tax class, it can contribute 30 per cent more, or \$1,300, in 1941, with the government footing the bill for the extra \$300.

All in all, with the additional taxes, the government has actually made giving cost less than it did last year, the accountants' bulletin declares.

Lawmakers at Work on Price Control

Price control legislation came to the floor of the House Nov. 24, the rules committee on Nov. 21 having voted that the selective price control bill recommended by the banking committee be open to all germane amendments, the administration thereby losing control of the measure.

To the Steagall bill, which is being considered, the banking and currency committee by 14 to 9 added a clause for the licensing of sellers of commodities, which was desired by the administration. Farmers are exempt from license on sales of their products.

The licensing provision empowers the administration to prescribe how the licensee shall do business.

Rep. Jesse Wolcott declared the bill carried the power to socialize the United States.

Eugene Cox, acting chairman of the rules committee, said Leon Henderson, the price administrator is "tainted with alien ideology" and has "a dictator complex."

The amendment by Rep. Albert Gore is to be offered Nov. 26 to fix an over all price ceiling for a certain date, including rents and wages, left out of the administration bill.

Landlord Lost Lien

Leeman Henderson, tenant, in July, 1939, delivered 389 bus., 13 lbs. of wheat to the Farmers Elevator Co., Purdy, Mo. Henderson notified the elevator company that he owed \$4.42 for rent.

Landlord Guinn Investment Co. demanded the market value of the wheat, \$194.56; but the elevator company refused to pay more than \$4.42. Later Henderson tendered \$4.42 to the landlord but it was refused.

When the investment company brought suit the jury gave judgment for defendant elevator company. On appeal this was affirmed by the Springfield Court of Appeals, which did not consider the merits of the case, but held that plaintiff had not complied with the rules of the court, in that no statement had been made in its brief in numerical order of the points relied upon together with citation of authorities appropriate under each point.—150 S.W. Rep. 508.

No Tax on Accommodation Trades

The U. S. Circuit Court of Appeals decided in favor of the Uhlmann Grain Co. in its action against the United States to recover a refund of sums paid under protest upon assessment of stamp taxes. There was no dispute as to the facts.

On Mar. 11, 1929, appellee was short 15,000,000 bus. of wheat, for the top 2,000,000 bus. of which it was required to maintain a deposit of 7½ cents a bushel. On the same day the Continental Grain Co. was short only 3,000,000 bus. It was required to maintain a margin of only 3 cents a bushel, up to 5,000,000. As an accommodation, therefore, it took over contracts for 2,000,000 bus.; thereby enabling appellee to withdraw \$150,000 from deposit on its own account, \$60,000 of which it thereupon deposited for the Continental for the contract the latter assumed. The contracts were turned back Apr. 22, 1929. The transaction was accomplished by telephone, and not in the wheat pit. The Uhlmann Grain Co. contended it was not a sale. The Court agreed with the district court that the transactions described were not sales, agreements of sale or agreements to sell, hence were not properly taxed as such.—84 Fed. Rep. (2d) 901.

Federal Income and Excess Profits Taxes of 135 leading manufacturing corporations were \$459,476,000 in the first half of 1941, against \$129,738,000 in the first half of 1940. The increase in taxes absorbed 76 per cent of the increase in net income.

Integrity

Have you noticed how seldom we hear the expressions "He's a man of Honor" and "His word is as good as his bond" nowadays? The "smart" thing may be to get by with a sharp deal; but the really clever thing in the long run is an untouchable integrity.

Asked—Answered

[Readers desiring trade information should send query for free publication here. The experience of brother dealers is most helpful. Replies to queries are solicited.]

Application of Wage-Hour Law?

Grain & Feed Journals: We operate a retail coal and grain business combined and the two men we have working haul coal, unload coal and work in the elevator or do what ever there is to do. We pay these men 30c per hour and work ten hours per day. As we understand it the lowest wages one can pay under the Wage and Hour Law is 40c per hour. Do we come under that law?

We have talked with other elevator operators, and they do not abide by the 40c scale because they don't think they come under it because they handle farm products direct from the farm. We would like to get the correct information on this.—Anderson & Kinch.

Ans.: This plant has the benefit of two exemptions simultaneously: first, as a retail establishment on account of the coal retailed, and second, as an elevator handling grain from farms in the general vicinity. Therefore it does not come under the law.

Better Ear Corn Elevator?

Grain & Feed Journals: We have two corn cribs with ear corn elevators of the bucket type. One elevator has No. 77 steel cup chain and the other has No. 62 malleable iron cup chain. We are continually broken down because the cup chain is continually breaking. We spend more in a season repairing these ear corn elevators than we make on our ear corn.

Several years ago I saw at the Iowa State Fair at Des Moines an ear corn elevator that had a cup chain made either of rivet or bolted steel bars. Who makes that kind of an ear corn elevator?—Ross Grain Co., by H. W. Ross, Akron, Ia.

Ans.: Ear corn elevators such as mentioned are manufactured by the Kewanee Machinery & Conveyor Co., Kewanee, Ill. Chains for use on these elevators are manufactured by the Link Belt Co., Chicago. The pintle chain is most commonly used. The links of this chain are fastened together with a rivet.

It is apparent that this continual breakage of the chain is caused by the twisting of the chain. This twisting is caused by the head and boot pulleys being out of line with each other or one of the pulleys being out of alignment itself. If

these pulleys are in alignment and line up with each other there should be no difficulty.

Sidelines for Elevators

Grain & Feed Journals: I read the following paragraph in your issue of Nov. 12, "Elevators dependent upon a single crop of grain alone have all of their eggs in one basket. If the crop fails the elevator may fail. Safety lies in diversification, with something coming in from some source at all times of the year." Have you a list of suggestions as to what a country elevator can do to make money in addition to handling grain and feeds? Would certainly appreciate such a list.—Kansan.

Ans.: The annual statement of an Illinois elevator shows, in addition to corn, oats, wheat and barley, coal, lumber, cement, field seed, paint, limestone, and feed.

Another from Ohio lists in addition to the grain common to that area, flour, general farm merchandise, coal, fertilizer, seed, wool, feed and custom grinding and mixing. A third from Ohio lists grain, grinding, feed, flour, sundry merchandise, coal, lumber, machinery, lime, plaster, oil, gas, fencing, brick, paint, twine, seeds, and fertilizer.

One from an Indiana elevator lists feed, coal, lumber, fencing, hardware, seed, fertilizers, cement, tile, twine and custom grinding.

New elevators in the Middle West and in the Northwest commonly incorporate in their design today a display salesroom for merchandise commonly bought by farmers, such as feeds, seeds, baby chicks, poultry supplies, hardware, poultry and livestock remedies, seed inoculants, and various other items, some going so far as to include canvas gloves.

Records in this office show that commercial feeds, custom grinding and mixing of feeds, and manufacture of branded feeds top the list among the side lines handled by elevators, along with coal. Next in importance are field seeds and related items like seed inoculants and dust treatments for the prevention of smut. Popping into importance is custom seed cleaning; most Middle Western elevators being equipped with a seed cleaner. Next in importance comes tile, cement, fencing, fence posts, lumber, and similar needs, followed by baby chicks, poultry supplies, poultry and livestock remedies, etc. At the bottom of the list stands farm machinery, which for some unexplainable reason does not appear to fit in well with the grain business thru the area mentioned, altho it does appear to be effectively handled by elevators in more southern districts.

Daily Closing Prices

The daily closing prices for wheat, corn, oats, rye, barley and soybeans for December delivery at the following markets for the past two weeks have been as follows:

	Option		Wheat											
	High	Low	Nov. 12	Nov. 13	Nov. 14	Nov. 15	Nov. 17	Nov. 18	Nov. 19	Nov. 21	Nov. 22	Nov. 24	Nov. 25	
Chicago	125½	96½	113¾	114½	114¾	114¾	114½	114½	114½	114½	114½	114	113¾	
Winnipeg	80½	72½	73½	73¾	73¾	72¾	72¾	72¾	72¾	73¾	74½	74¾	74¾	
Minneapolis	120½	98½	109½	109½	110½	109¾	109¾	109¾	110	109½	109¾	109¾	108¾	
Kansas City	119	88½	109½	110½	111½	110	110½	110¾	110¾	110¾	110¾	110¾	110	
Duluth, durum	113¾	93½	101½	101½	102½	100¾	101½	101½	100¾	100¾	100¾	100¾	99¾	
Milwaukee	125	96½	113¾	114½	115	114½	114½	114½	114½	114½	114½	114	113¾	
			Corn											
	High	Low	Nov. 12	Nov. 13	Nov. 14	Nov. 15	Nov. 17	Nov. 18	Nov. 19	Nov. 21	Nov. 22	Nov. 24	Nov. 25	
Chicago	86½	66¾	75¾	75¾	74¾	73¾	73¾	73¾	74¾	73¾	73¾	73¾	72¾	
Kansas City	78¾	63¾	70¾	70¾	70¾	69¾	69¾	69¾	70¾	70¾	70¾	70¾	69¾	
Milwaukee	86½	67	75¾	75¾	74¾	73¾	73¾	73¾	74¾	73¾	73¾	73¾	72¾	
			Oats											
	High	Low	Nov. 12	Nov. 13	Nov. 14	Nov. 15	Nov. 17	Nov. 18	Nov. 19	Nov. 21	Nov. 22	Nov. 24	Nov. 25	
Chicago	55½	36½	49¾	49¾	50	49¾	49¾	49¾	49¾	49¾	49¾	49	48¾	
Winnipeg	48½	33	43¾	43¾	43¾	43	43¾	43¾	44	44¾	44¾	44½	44¾	
Minneapolis	50½	33½	45½	45½	45½	45	45½	45½	45½	45½	46	45½	44¾	
Milwaukee	55	36½	49¾	49¾	50	49¾	49¾	49¾	49¾	49¾	49¾	49	48¾	
			Rye											
	High	Low	Nov. 12	Nov. 13	Nov. 14	Nov. 15	Nov. 17	Nov. 18	Nov. 19	Nov. 21	Nov. 22	Nov. 24	Nov. 25	
Chicago	80¾	56¾	64¾	64¾	65	64	64¾	64¾	64¾	64¾	64¾	64¾	63¾	
Minneapolis	75¾	53½	62	62¾	63¾	63	62¾	63¾	63¾	62¾	62¾	61¾	61¾	
Winnipeg	66	50¾	56¾	58	57¾	57¾	57¾	57¾	57¾	58¾	58¾	58¾	57¾	
Duluth	174¾	54¾	62	62¾	63¾	63	62¾	63¾	63¾	62¾	62¾	62¾	61¾	
			Barley											
	High	Low	Nov. 12	Nov. 13	Nov. 14	Nov. 15	Nov. 17	Nov. 18	Nov. 19	Nov. 21	Nov. 22	Nov. 24	Nov. 25	
Minneapolis	64	49½	54	54	54¾	55¾	54½	54¾	54¾	55½	55½	54¾	54½	
Winnipeg	60¾	44	55½	56¾	56¾	55¾	55¾	56¾	55¾	57	58	58¾	57¾	
			Soybeans											
	High	Low	Nov. 12	Nov. 13	Nov. 14	Nov. 15	Nov. 17	Nov. 18	Nov. 19	Nov. 21	Nov. 22	Nov. 24	Nov. 25	
Chicago	197½	121½	165¾	163¾	166	160½	157½	158½	161½	161½	160¾	162½	160½	
Canada exchange	....	....	88½	88½	88¾	88¾	88½	88¾	88¾	88¾	88¾	88¾	....

This is a brief sketch of what others are handling in the way of sidelines. The list could be expanded considerably. Naturally, before expanding sidelines and the facilities for handling them, a grain dealer should survey the needs of his trade territory, and the competition he must face.

Coming Conventions

Trade conventions are always worth while, as they afford live, progressive grain dealers a chance to meet other merchants from the same occupation. You can not afford to pass up these opportunities to cultivate friendly relations and profit by the experience and study of others.

Dec. 9, 10, 11. Western Grain & Feed Ass'n, Hotel Fort Des Moines, Des Moines, Ia.

Dec. 9, 10, 11. Farmers Elevator Ass'n of S. D., Hotel Cataract, Sioux Falls, S. D.

Jan. 12, 13. Northwest Retail Feed Ass'n, Saulpaugh Hotel, Mankato, Minn.

Jan. 15. Oklahoma Seedsmen's Ass'n, Youngblood Hotel, Enid, Okla.

Jan. 17, 18, 19. Winter meeting of American Seed Trade Ass'n, Palmer House, Chicago, Ill.

Jan. 19. Farm Seed Division of American Seed Trade Ass'n, Palmer House, Chicago, Ill.

Jan. 21, 22, 23. Farmers Grain Dealers Ass'n of Iowa, Fort Des Moines Hotel, Des Moines, Ia.

Jan. 26, 27. Indiana Grain Dealers Ass'n, Columbia Club, Indianapolis, Ind.

Feb. 11, 12. Illinois Farmers Grain Dealers Ass'n, Pere Marquette Hotel, Peoria, Ill.

Feb. 17, 18, 19. The Farmers' Elvtr. Ass'n of Minnesota, Hotel Radisson, Minneapolis, Minn.

April 2, 3, 4. Society of Grain Elevator Superintendents, Omaha, Neb.

June 4, 5, 6. American Feed Manufacturers' Ass'n, French Lick Springs Hotel, French Lick, Ind.

Open Interest in Future Deliveries

As reported by C.E.A. the open interest in all futures on the Chicago Board of Trade recently has been as follows, in 1,000 bus.:

	Wheat	Corn	Oats	Rye	Soybeans
July 12	45,256	20,615	8,502	12,026	11,278
July 19	49,885	20,479	9,416	12,208	11,465
July 26	50,462	21,393	11,151	12,315	11,571
Aug. 2	51,292	22,147	13,284	13,597	11,239
Aug. 9	50,005	25,017	14,639	15,455	10,780
Aug. 16	49,786	25,617	16,051	16,371	11,799
Aug. 23	50,903	25,731	16,672	16,866	12,143
Aug. 30	50,826	26,853	18,388	17,434	11,415
Sept. 6	50,686	29,232	17,744	18,199	10,855
Sept. 13	52,951	35,164	19,019	18,457	10,729
Sept. 20	53,660	35,677	18,257	19,235	10,794
Sept. 27	55,510	38,018	18,993	19,990	10,525
Oct. 4	57,679	40,353	18,872	20,815	10,974
Oct. 11	59,115	40,329	18,289	20,834	10,833
Oct. 18	51,803	40,148	16,274	19,989	10,193
Oct. 25	51,550	41,304	16,765	20,081	9,617
Nov. 1	52,584	41,844	16,985	20,480	9,584
Nov. 8	53,592	42,348	16,924	20,827	9,548
Nov. 15	52,968	42,254	16,694	21,257	9,432
Nov. 22	54,407	40,090	16,941	21,200	9,532

Price Control in Canada

The new price ceiling law for Canada will go into effect Dec. 1, instead of Nov. 17, on account of the impossibility of getting all the forms and regulations distributed in time.

Prime Minister Mackenzie King had announced the program that "on and after Nov. 17, 1941, no person may sell any goods or supply any services at a price or rate higher than the maximum price or rate charged by him for such goods or services during the four weeks from Sept. 15 to Oct. 11 of the present year."

This would hold down wheat prices, now at a fixed minimum of 70 cents for No. 1 Northern at Fort William; but it is likely that special consideration will be given agricultural products.

T. C. Douglas, in Parliament Nov. 15, suggested that the initial payment by the Wheat Board to farmers should be \$1 instead of 70 cents.

USDA 1941 Corn Loan Program

The Department of Agriculture has announced that the Commodity Credit Corporation will make loans on 1941 corn in the commercial area at rates averaging 74.8 cents per bushel. This compares with a flat rate in 1940 of 61 cents per bushel.

At the same time it was announced that the price of corn sold by Commodity Credit would be revised—effective immediately—to the new loan rates.

As in the past, loans will be administered in the field by county Agricultural Adjustment Administration committees. The rates will vary by counties from 69 to 79 cents per bushel in the central area, and county loan rates will be announced by state AAA committees. Loans on 1941 corn will be available from Dec. 1, 1941, to the close of the marketing year, Sept. 30, 1942.

Variations in loan rates according to location mark an innovation in corn loans which previously were made at a uniform rate for all sections of the commercial area. With these rate variations based upon a normal relationship of corn prices over the area, officials said that the 1941 corn loans should bring about the least possible interference with normal livestock feeding operations in all parts of the corn belt. Furthermore, they point out, this should encourage the storage of adequate reserves more uniformly throughout the corn belt.

The average loan rate of 74.8 cents per bushel upon which the county rates will be based is 85 per cent of the corn parity price of 88 cents on Sept. 15, 1941, the last reporting date before the beginning of the current marketing year, Oct. 1.

Following the pattern of past price relationships loans will be lower in surplus corn-producing counties of the central area and higher in the counties where the amount of corn used normally exceeds the amount of corn produced. In the commercial corn counties along the Atlantic seaboard rates will be 84 cents per bushel.

Loans throughout the entire commercial corn area will be made only to farmers who have

complied with the 1941 corn allotment. The 1941 commercial corn area includes 623 out of the 1,197 agricultural counties in the following 15 states: Illinois, Indiana, Iowa, Kansas, Kentucky, Michigan, Minnesota, Missouri, Nebraska, Ohio, South Dakota, Wisconsin in the central area, and Delaware, Maryland and Pennsylvania in the eastern area.

Outside the commercial area, loans will be available to farmers who have not exceeded their total soil-depleting acreage allotments at rates varying from 50 to 63 cents per bushel. The average of these non-commercial rates will be 75 per cent of the commercial area average rate as required by the Agricultural Adjustment Act.

All loan rates are based upon corn grading No. 3 or better, except for moisture content and test weight. The rate for corn grading "mixed" will be 2 cents less per bushel.

Loans on 1941 corn, which may be made any time between Dec. 1, 1941, and Sept. 30, 1942, will be 3-year loans maturing Aug. 1, 1944, or earlier on demand. Corn may be redeemed at any time during the loan period upon payment of the loan, plus 3 per cent interest. If the loan is completed prior to April 1, 1942, the farmer may deliver his corn in settlement of the loan during Aug. Sept., or Oct. of 1942. However, if the loan is completed on or after April 1, 1942, the corn will not be accepted in satisfaction of the loan until the same months of 1943. In practice, this gives him the option of making it a 1, 2, or 3-year loan. Delivery of the farmer's corn is also subject to 30 days' notice to the county AAA committee.

To encourage the continuance of the corn under loan, Commodity Credit Corporation will make a storage payment of 4 cents per bushel upon corn stored until Aug. 1, 1943, which is thereafter delivered to the Corporation in settlement of the loan.

Other provisions of the 1941 corn loan program remain practically the same as under the 1940 loan program. As in the past, a farmer will be able usually to complete arrangements for a loan in one visit to the office of his county AAA committee.

Under the revised sales program, corn owned by Commodity Credit Corporation stored in steel bins or country warehouses in the commercial corn area may now be purchased out of store at the county loan value on the 1941 crop, plus one-half cent per bushel per month beginning Jan. 1, 1942. The monthly rise will continue until the price is 3 cents per bushel above the county loan rate. County AAA committees will handle the distribution of the corn under instructions similar to those now in effect for local corn sales.

Corn Loan Repayments

The Department of Agriculture reports that 87,478 loans made by Commodity Credit Corporation, representing 92,569,619 bus. of 1940 corn and 1938-39 resealed corn, were repaid from Jan. 1, 1941 through Nov. 15, 1941. Repayments were made on 55,770,757 bus. pledged under loan in 1938-39 and resealed under farm storage, and on 36,798,862 bus. of 1940 corn.

There remained outstanding a total of 186,510 loans on 211,383,503 bus., of which 144,968,824 bus. were resealed from 1938 and 1939 crops and 66,414,679 bus. were from the 1940 crop. Loans repaid and outstanding by States follow:

State	Repaid Since 1-1-41 (1938-1939-1940)		Outstanding Balance (1938-1939-1940)	
	Loans	Bushels	Loans	Bushels
Ill.	21,192	27,288,362.77	11,393	15,844,681.56
Ind.	1,790	1,782,379.52	840	925,636.19
Iowa	44,860	46,947,723.36	103,752	127,324,170.07
Kans.	985	842,940.86	1,387	1,199,405.14
Ky.	22	64,158.00	2	2,732.00
Mich.	29	13,626.00	18	8,168.00
Minn.	7,099	6,049,406.45	28,424	29,303,352.96
Mo.	2,879	2,538,854.10	3,848	3,910,450.27
Nebr.	6,095	5,158,337.76	24,911	22,497,593.73
N. Dak.	76	95,459.00	46	42,544.00
Ohio	708	457,496.78	367	272,120.22
S. Dak.	1,698	1,303,509.03	11,478	10,019,896.91
Wis.	45	26,865.00	44	32,752.00
Total	87,478	92,569,618.63	186,510	211,383,503.05

How to Treat Infested Elevators

The proper way to disinfect an infested elevator according to E. J. Raether is to sweep and clean the walls, beams, columns and machinery, under and over. Clean out conveyors, elevator boots and elevator heads. Clean up all dirt and dust accumulations outside and under elevator, and clean out empty bins thoroughly. All sweepings should be burned or hauled to a dump and covered with dirt.

After a complete clean-up, spray the walls, floors, machinery, elevator boots and heads with "RAP," a contact spray. RAP IS NOT A FUMIGANT, AND SHOULD NOT BE USED IN GRAIN. It has an oil base with chemicals of toxic qualities that kills immediately upon contact.

When spraying empty bins, spray down from the top as far as possible, and as high as you can reach from the bottom. Then spray the floor of the bin. If possible repeat the operation in bins in a few days. Also, if possible, run legs slow and spray buckets and belts.

RAP Contact Spray is harmless to humans, and very simple to apply with any kind of spraying device.

The average country elevator can be thoroughly sprayed with 15 to 20 gallons of RAP Contact Spray. 50 per cent of the disinfecting is in the cleaning up—50 per cent is in the contact spray.

C.C.C. Soft Red Wheat to Missouri Mills

W. B. Lathrop, regional manager at Kansas City of the Commodity Credit Corporation on Nov. 17 began offering limited quantities of pooled soft red winter wheat to mills located in Missouri.

Details of the sale program were discussed by him Nov. 18 at a meeting with millers at the Hotel Continental. It is an outcome of the meeting of C.C.C. officials with grain men and millers at Chicago Nov. 10 and 11.

The price at which soft winters are to be sold is the 1941 loan rate, plus accrued charges since the start of the 1941 marketing season, or at the market level, whichever is higher. Also, the stipulation is that the C.C.C. must replace with hard winters at a discount of 3c a bushel below the price at which the soft wheat is sold.

The offering basis as of Nov. 21 was as follows, f.o.b. cars, in cents over the Kansas City December future:

Protein, %	No. 1 Red	No. 2 Red	No. 3 Red
Under 10.50	9½	8½	7½
10.50 to 11.00	8	7	6
10.00 to 11.50	6½	5½	4½
11.50 to 12.00	5½	4½	3½
Above 12.00	4½	3½	...

USDA 1941 Barley Loans

The Department of Agriculture reports that through Nov. 15, 1941, Commodity Credit Corporation made 20,738 loans on 15,064,127 bus. of 1941 barley in 20 States. Loans average 40 cents per bushel. Approximately 14,000,000 bus. of the total barley under loan are stored on the farm. On the same date last year loans were reported on 5,302,060 bus. of barley. Loans by States follow:

State	Number of Loans	Farm Storage (bushels)	Warehouse Storage (bushels)
California	2	22,146	
Colorado	163	133,202	33,650
Idaho	70	39,642	66,151
Iowa	13	4,943	1,481
Kansas	542	557,362	13,803
Michigan	6	2,843	
Minnesota	1,670	1,163,098	93,301
Missouri	1	258	
Montana	112	91,612	
Nebraska	12,158	7,065,697	539,156
New Mexico	2	1,380	
North Dakota	1,527	1,287,707	67,790
Oklahoma	115	107,727	3,370
Oregon	15	23,690	3,088
South Dakota	3,674	2,571,247	2,477
Texas	577	866,674	196,775
Utah	45	37,625	3,461
Washington	16	7,293	25,218
Wisconsin	1	864	
Wyoming	29	27,920	1,546
TOTAL	20,738	14,012,860	1,051,267

USDA 1941 Wheat Loans

The Department of Agriculture reports that through Nov. 15, 1941, Commodity Credit Corporation made 466,810 loans on 312,870,347 bus. of 1941 wheat in the amount of \$308,877,329. The wheat under loan includes 90,017,316 bus. stored on farms and 222,853,031 bus. stored in public warehouses. Loans to the same date last year had been made on 253,693,663 bus. Loans by States follow:

State in which loans originated	No. of Loans	Farm Storage (bushels)	Warehouse Storage (bushels)	Amount
Ark.	1		493	\$ 482.02
Calif.	168	212,237	477,392	631,376.70
Colo.	9,300	3,200,448	6,285,113	9,456,768.57
Dela.	463		210,413	246,954.19
Idaho	4,974	2,208,465	5,466,790	6,454,500.86
Ill.	27,988	869,955	10,033,006	12,091,210.32
Ind.	17,561	720,043	5,787,933	7,382,508.97
Iowa	2,981	34,948	732,602	792,583.96
Kans.	101,172	18,645,525	53,952,114	75,395,110.00
Ky.	2,096		818,841	913,197.46
Md.	3,616	5,304	1,626,187	1,914,799.18
Mich.	2,862	346,898	294,696	642,737.60
Minn.	16,332	2,889,221	3,587,123	6,403,672.68
Mo.	20,693	185,173	5,283,596	5,604,604.86
Mont.	20,681	16,247,926	11,441,787	24,769,801.18
Nebr.	48,433	9,481,895	14,262,671	23,405,624.17
N. Mex.	361	43,540	548,643	605,045.23
N. Y.	280	9,162	76,406	99,661.62
N. C.	50		8,358	9,646.64
N. D.	53,425	15,203,180	26,094,904	40,093,615.29
Ohio	16,095	708,473	5,434,851	7,040,877.29
Okl.	33,847	2,284,154	15,279,920	16,968,971.85
Ore.	3,699	2,273,065	10,342,832	11,772,732.65
Pa.	1,585	3,694	415,817	485,406.73
S. C.	1		1,786	2,178.92
S. D.	43,458	8,143,079	10,247,985	18,160,940.33
Tenn.	1,703		541,983	605,554.71
Tex.	22,542	1,358,334	15,495,463	16,449,290.92
Utah	730	1,053,129	348,582	1,124,310.43
Va.	1,164	7,590	342,083	408,960.11
Wash.	7,222	2,837,265	16,569,609	17,112,749.94
W. Va.	61		31,478	35,183.38
Wis.	3		288	173.27
Wyo.	1,263	1,044,325	811,574	1,796,096.75
Totals	466,810	90,017,316	222,853,031	\$308,877,328.78

Crop Reports

Reports on the acreage, condition and yield of grain and field seeds are always welcome.

Umapine, Ore.—Seeding of grain on the hills southwest of town has been finished and the fields are beginning to show green. Albert Patterson has planted some 60 acres of Australian peas, the first to be seeded in this area.—F. K. H.

Farmington, Minn., Nov. 19.—Soy beans yielded about 15 bus. per acre, about 70% are harvested. Acreage will be increased next year. Corn crop is good, about 70% is husked. Small grain crop about 50% of normal this year.—P. H. Feely & Son, Inc.

Winchester, Ind., Nov. 22.—Quality of corn is good altho yield in Eastern-Central Indiana is not as high in bushels as anticipated. I have driven a good deal this past week and never saw any finer prospect for wheat at this time of the year. Grass is abundant and feed dealers are complaining feed trade is away below last year and it should be higher.—Goodrich Bros. Co.

Corning, Ia., Nov. 20.—The acreage of beans for grain is about 20% larger than last year. Not many have been harvested so far on account of wet weather. Estimate the yield at 18 bus. corn two-thirds husked. Moisture content high. Average yield around 40 bus. Acreage same as last year. Acreage of fall wheat only about half in on account of wet weather. What was seeded looks fine.—Farmers Co-op. Exchange.

Ottawa, Ont., Nov. 12.—Canada's 1941 wheat crop was estimated today by the Dominion Bureau of Statistics at 302,626,000 bus., compared with 551,390,000 in 1940. The figure represented a decrease of 3,833,000 bus. from the first estimate issued in September. The bureau estimated Alberta's wheat crop at 90,000,000 bus. and said the Saskatchewan and Manitoba estimates remained unchanged at 136,000,000 and 56,000,000 bus.

Keene, Neb., Nov. 19.—We raised no beans here this year; we had abandoned about 50% of the seeded wheat acreage; the balance yielded 15 to 20 bus. per acre. This is a better yield than last year by 10 bus. per acre. Barley yields were better than last year by 10 or 12 bus. to the acre. We have the best corn crop this year that has been raised in this community for eight years.—Keene Grain, Stock, Lbr. & Coal Co.

Lincoln, Neb., Nov. 13.—Prospects for late corn and grain sorghums in Nebraska were improved by favorable weather during most of October, except in the west, and is expected to be the best crop since 1933. Corn husking has been delayed by cold wet weather in the east and lack of harvest labor in some sections. Grain sorghum production is expected to be the second largest on record. While the acreage is considerably smaller than last year when a record crop was produced, the yield per acre is much higher.

Toronto, Ont., Nov. 18.—The acreage planted to fall wheat shows a 13 per cent increase over last year, and the increase would have been greater had it not been so dry in some areas during the early part of the planting season, and if labor had been more plentiful. The crop is now reported above average in condition and will go into the winter with favorable prospects. Owing to the lack of moisture in September some wheat fields were patchy and uneven, but the open fall and recent heavy rainfall have benefited these fields greatly, and they have thickened up well.—S. H. H. Symons, statistician and economist, Ontario Dept. of Agr.

Spokane, Wash.—Prospects for the 1942 crop in the Pacific Northwest are similar to last year's plantings and growth at the present time. Growers in many sections got an early start with their seeding; moisture conditions have given the impetus to large winter wheat acreages, which have made splendid growth to date. With the obvious root development and germination of these fall-sown plants, the coming crop will stand a severe winter. Acreage reductions will undoubtedly cut production in the area. Soybeans came into volume production this year.—Don M. Gemberling, sec'y, Pacific N-W Grain Dealers Ass'n, Inc.

Dimmick (LaSalle p. o.), Ill., Nov. 19.—Beans acreage, 100%; condition, 80% (weather damage); yield, 90%. Corn acreage, 100%; condition, 100%; yield, 120%.—William J. Lyons.

Medora, Ill., Nov. 17.—Farmers are beginning to get into the fields with corn pickers, but are using two tractors in nearly every case. They are trying to do the same thing with the combines for soybeans, but are not having as good luck as they spent about half the time buried in the mud. One farmer told us that he started to combine a field of beans before the wet weather and they were making 24 bus. per acre. Now they are making about 10 bus. and are badly damaged. Nearly all of the yellow beans coming in are damaged, but the black and brown varieties are in rather fair shape. We had a load of black beans in today that tested 11.42% moisture.—Medora Elevator Co., M. F. Dodge.

Enid, Okla., Nov. 14.—Much wheat is up to a good stand and now needs pasturing for fear of too rank a growth this winter. Hessian flies are reported to be infesting many fields, a further reason for pasturing. October went into weather records as the wettest month in the history of Oklahoma. The state average for the month was 11.44 in., which is 8.38 in. above the 50-yr. average for the month of October. The previous record for the greatest monthly rainfall was held by May, 1902, with 0.13 in., May, 1892, with 10.12 in., October, 1923, previously the wettest October of record, had 8.91 in. Wyandotte, Ottawa County, had the greatest total for October of this year with 21.39 in. The smallest monthly total was 3.91 at Kenton, in the extreme northwest part of the Panhandle.—E. R. Humphrey, Sec'y, Oklahoma Grain & Feed Dealers Ass'n.

Topeka, Kan.—Last month was by far the wettest October known in Kansas since statewide records were begun in 1887, and made the first 10 months of 1941 wetter than the corresponding period of any year on record except 1915, according to the state weather bureau. Rain fell somewhere in the state on almost every day, and by the close of the month the soil was so thoroughly soaked in the eastern counties that there was no chance for further rains to soak into it. The greatest monthly total was 16.01 inches recorded at Lindsborg, where a fall of 11.39 inches on Oct. 20 was the second greatest 24-hr. amount ever recorded in the state. The least monthly total was .51 inch at Norton. The first killing frost of the season occurred over practically all the state on Oct. 28, which was later than usual. Little damage resulted, as almost all crops had matured.

Winnipeg, Man., Nov. 6.—The 1941 crop of Western Canadian amber durum wheat is about equal to the 1940 crop in bushel weight and macaroni color, and slightly lower in protein content and 1,000 kernel weight. Data for average samples indicate that bushel weight, kernel weight, semolina yield and macaroni color score, all decrease with grade. Nos. 2 and 3 C. W. amber durum are about equal in protein content (13.0%) but 1 C. W. is 1.6% higher. All things considered, the 1941 crop of durum wheat appears to be about average in milling and macaroni-making quality. Production is estimated at 4,200,000 bus., made up of 2,700,000 from Manitoba and 1,500,000 from Saskatchewan. This represents a decrease of 55% in Manitoba and 40% in Saskatchewan. Of the total number of cars inspected from Aug. 1 to Oct. 17, 61% graded 2 C. W. and 88% fell within the top three grades.—J. Ansel Anderson and R. L. Cunningham, Board of Grain Commissioners for Canada.

Decatur, Ill., Nov. 22.—Corn pickers have been very active and the cribs that were emptied during the summer and early fall are beginning to bulge with the new crop. The little corn selling is grain for which growers lack crib room. Due to the unusually wet fall, moisture in the new corn is averaging higher than in recent years. The corn also shows a little more damage, but on the whole, it is nothing serious. Even with the corn lost this year due to the heavy dropping of ears, the production is still an all-time record yield per acre. Soybean combining started a week ago Tuesday afternoon and increased every day as field conditions improved. Many tractors equipped with headlights for night work kept right on cutting until the straw got too damp and tough. Considerable doubling up on combines and it is nothing unusual to see two or three combines at work in one field. This is helping to speed up the harvest which was so long delayed, and we would estimate 50% of the Illinois crop is now harvested.—Baldwin Elevator Co.

Warehouseman's Supplemental Certificate

G. E. Blewett, sec'y-treas. of the Southwest Terminal Grain Elevator Ass'n, Ft. Worth, Tex., has written to J. B. Hutson, pres. of the C.C.C., making valuable laborsaving suggestions on the form of the supplemental warehouseman's certificate, as follows:

It is obvious that by amending the present warehouse receipt form it can be made to show all the information now contained in this warehouseman's supplemental certificate or evidenced by copies of the inspection, weight, and protein certificates, and, if this can be done, you can appreciate the fact that it will eliminate fully 90 per cent of the stenographic work now done by the warehousemen, as well as eliminating a great deal of work on the part of the Commodity Credit Corporation, as well as relieving your records of a lot of superfluous and unnecessary papers, but, of course, to amend the warehouseman's receipt, it will be necessary for the Commodity Credit Corporation to obtain the approval and sanction of the warehouse division of the U. S. Department of Agriculture for those warehouses operating under a Federal Warehouse License, as well as approval of the various states for those houses operating under a state license, and, appreciating the usual delay accorded such matters, I would suggest that steps be taken immediately toward perfecting such a program.

It so happens that the warehouse receipts issued by The Fort Worth Elevators & Warehousing Co. do reflect full information shown on the warehouseman's supplemental certificate as to the grade of the wheat, but does not carry any information as to the freight legend.

In event the Commodity Credit Corporation cannot accept the information on the warehouseman's receipt, and consider it necessary to retain the warehouseman's supplemental certificate, let me suggest that the form be revised in such a manner as submitted by me last winter, for such a form will reduce typing fully 50 per cent, and by permitting the warehouseman to furnish two copies of the warehouseman's supplemental certificate in place of an original and duplicate, as now required, will also reduce the warehouseman's work a great deal.

In event the warehouseman's supplemental certificate is retained, let me refer you to paragraph 6, which to my mind is most ambiguous and does not serve the purpose for which it was intended, as this paragraph reads in part as follows:

"That if any wheat grading 'tough' or 'weevily' has been processed at the request of the eligible producer,"

Whereas to me it seems this should read as follows:

"Any wheat grading 'tough' or 'weevily' has been processed at the request of the eligible producer,"

Thus the phraseology suggested by me would be evidence that any wheat grading "tough" or "weevily" had been processed by the warehouseman, whereas under the wording now contained, it certainly does not carry any such information, and during the past movement we have been continually bombarded with requests from county committees that we furnish them with certificates of processing.

The crash in wheat prices Oct. 17 carried the December delivery 10 cents under the loan price at Chicago. What will the C. C. C. do for money.

The word "sabotage" is understood to grow out of the habit of French peasants of turning out en masse to trample down the grain fields of employers or landlords to avenge real or fancied wrong. Source is the French word "sabot," or wooden shoe, this being the customary footwear of the peasants. We are hearing much about sabotage these days, and elevator operators would do well to take precautions against it. Grain is needed in our defense program.

Grain Movement

Reports on the movement of grain from farm to country elevator and movement from interior points are always welcome.

Corning, Ia., Nov. 20.—All 1941 corn still in farmers' hands.—Farmers Co-op. Exchange.

Dimmick (LaSalle p. o.), Ill., Nov. 19.—In farmers' hands, 1941 crop: beans, 50%; corn, 90%.—William J. Lyons.

Earlville, Ill., Nov. 19.—Soybeans are now coming in, in nice shape, only a few lots of damaged beans.—Strong & Strong.

Keene, Neb., Nov. 19.—About one-half of the wheat crop and 90% of the barley remain in farmer hands.—Keene Grain, Stock, Lbr. & Coal Co.

Farmington, Minn., Nov. 19.—About 50% of soybeans are marketed. Very little corn marketed. Most small grain will be fed on the farms.—P. H. Feely & Son, Inc.

Winchester, Ind., Nov. 22.—Corn receipts are not running at all and corn is still wet, containing around 20% moisture. We never handled as little corn this time of year on such an abundant crop.—Goodrich Bros. Co.

Galveston, Tex.—Barge shipments of 83,000 bus. of bonded Canadian wheat arrived here late last month, the first of the movement of 700,000 to 800,000 bus. scheduled for Texas milling into flour for export. The barges required 20 days between Chicago and Galveston.

Buffalo, N. Y.—Grain in store in local elevators Nov. 13, exclusive of mill supplies rose to a new all-time high of 27,018,901 bus., Buffalo Corn Exchange figures show. Heavy loadings into the Standard elevator's new 2,000,000-bu. addition caused the increase, it having increased local capacity to more than 28,000,000 bus.—G. E. T.

Decatur, Ill., Nov. 22.—Feeding of corn is heavy: Commercial use is still large, in ten months this year the grind amounted to 82,177,000 bus., or nearly 24,000,000 bus. more than for a similar period last year. Repayments on corn loans from Jan. 1st to Nov. 8th amounted to 91,280,655 bus., leaving 212,672,467 bus. outstanding.—Baldwin Elevator Co.

Pasco, Wash.—Shelled corn is pouring into the new Continental Grain Co. elevator at the Port of Pasco in such volume that Washingtonians are gasping in amazement. The corn comes from Iowa and is government-owned. It is being shipped here for storage. It is understood that the local elevator will be stocked with 100,000 bus. This is the largest accumulation of corn ever assembled in Eastern Washington.—F. K. H.

New York, N. Y.—Receipts and shipments of grain in October as compared with October, 1940 (shown in parentheses), expressed in bushels were as follows: Receipts, wheat, 2,614,872 (1,253,166); corn, 1,634,682 (121,816); oats, 48,625 (146,002); rye, 187,342 (1,700); barley, 1,500 (1,700); flaxseed, 163,000 (238,357); shipments, wheat, 3,286,000 (699,000); corn, 1,631,000; oats, 181,000; rye, 174,000; clover, 7,142 (1,606).—Dept. of Inf. & Statistics, Produce Exchange.

Buffalo, N. Y., Nov. 18.—Barge canal loadings of grain here last week jumped to 931,000 bus. with more loadings being today because shipments in wooden barges on the canals must end tonight, insurance on the wooden barges expiring at midnight. Total grain loadings from Buffalo by rail and canal last week were 2,094,888 bus., one of the heaviest outbound movements of the year with C.C.C. moving more than 1,000,000 bus., the Buffalo Corn Exchange reported.—G. E. T.

Spokane, Wash.—Spokane improved its preponderant position as the west's No. 1 grain terminal, as during October 1,240 cars of wheat receipts were inspected, bringing the total for the 1941 crop to 6,191, or 74 more cars at this time a year ago. Tacoma ranked second in cars received during October with 563 while other terminals received: Seattle, 509; Portland, 506; Ogden, 503, and Great Falls, 442. Seattle ranks second for the season to date with 4,934 cars received and Great Falls is third with 4,317.—F. K. H.

Spokane, Wash.—Lack of wheat storage space in Inland Empire country elevators, a major problem a month ago has largely solved itself, advise many grain men. Terminal mills and elevators at Columbia River and Puget Sound ports and in Spokane are still crowded with grain, but country elevators, especially in the Pelouse region, have space available. Some grain still is stored in the open next to bulk warehouses in the Big Bend district, where many farmers who ordinarily average 10 bus. to the acre produced 30 and 40 bus.—F. K. H.

Lind, Wash.—In these rainy days one often hears inquiries about the condition of the now almost world-famous pile of wheat here. In answer to such questions let it be said that as yet the damage to the huge pile is very slight. When the Lind country raised more wheat than there was storage for, the grain was poured into an enormous pile under only the canopy of the heavens. Dire predictions about the outcome swept the country, but the worst didn't happen. There are 360,000 bus. in the huge pile at present and much more is bound to be added, and that, friends, is a lot of wheat to be dumped in an open pile.—F. K. H.

Fort William, Ont.—Figures made available Nov. 11 show that 118,000,000 bus. of grain were stored at that time, an increase of 33,000,000 bus. over the record set in July, 1940, of 85,000,000 bus. Of the amount 44,000,000 bus. were stored in emergency space and there was room for 8,000,000 more; available elevator space should accommodate another 8,000,000 bus. it was announced. As the above figures were made public 3,100 cars awaited unloading at the lake head terminal; an average of 780 were being unloaded daily and an average of 800 were arriving daily. As a result of extra pressure, grain was moving out of the lake head in considerable volume.

Duluth, Minn.—Shipping operations are expected to be speeded up now that the close of the lake shipping season is nearing an end. Large volume of grain is scheduled to be moved out via the lake. Considerable corn and barley has been rushed in here from interior points to be shipped in the winding up of the lake season. Some 10,000,000 bus. of grain is slated to go. The wheat rate to carry and unload Buffalo holds at 5c per bushel, and for winter storage in boat bottoms the rate is 8c per bushel. The cash market has its ups and downs, showing activity one day and sluggishness the next. Demand for good wheat and even other grains remains steady and basis firm but any damp, smutty or tough type it holds rather narrow. Musty stuff takes a heavy discount.—F. G. C.

Ottawa, Ont., Nov. 20.—Canadian wheat in store for the week ending Nov. 14 increased 387,063 bus. as compared with the previous week and increased 50,111,735 bus. when compared with the corresponding week in 1940. The amount in store was reported as 503,695,508 bus. compared with 503,308,445 bus. for the previous week and 453,583,773 bus. for the week of Nov. 15, 1940. Canadian wheat in the United States amounted to 24,972,025 bus., a decrease of 830,748 bus. from the previous week when 25,802,773 bus. were reported. This Canadian wheat was located at the following ports: Erie 2,193,000; Erie Canal Afloat 578,000; Buffalo 5,237,000; Buffalo Afloat 889,000; Albany 747,000; New York 3,340,000; New York Afloat 2,034,000; Boston 2,350,245; Portland 1,306,044; Philadelphia, 769,216; Baltimore 1,144,779 and In Transit U. S. A. 4,383,741. bus. Wheat receipts in the Prairie Provinces for the week ending Nov. 14, amounted to 7,700,454 bus., a decrease of 729,945 bus. from the revised figures of the previous week when 8,430,399 bus. were marketed. During the corre-

sponding week a year ago the receipts were 7,508,726 bus. Marketings in the three Prairie Provinces for the 15 weeks from Aug. 1 to Nov. 14, as compared with the same period in 1940 were as follows, figures within brackets being those for 1940: Manitoba 19,990,634 (31,256,617); Saskatchewan 60,615,822 (124,796,937); Alberta 29,261,395 (67,436,385) bus. For the 15 weeks ending Nov. 14 and the same period in 1940 109,867,851 and 223,489,939 bus. were received from the farms.—R. H. Coats, Dominion Statistician.

Charges and Shrinkage on C.C.C. Wheat

Advices from Washington are that the Commodity Credit Corporation will pay semi-annually the accrued charges on unloading and storage of pooled wheat.

The C.C.C. will allow one-eighth of one per cent shrinkage in transit on their wheat shipped from country stations where there are no official weights.

Lawrence, Kan.—A joint meeting of the Kansas Weather-Crops Seminar and the Kansas City Meteorological Seminar has been scheduled at the University of Kansas for Dec. 6.

Washington, D. C.—Estimated deliveries of commodities for British shipment, Apr. 29, to Oct. 1, 1941, according to the U.S.D.A., included 418,750 lbs. biscuits, 5,266,793 bus. corn, 149,998 bbls. wheat flour, 3,734,600 lbs. soya flour, 3,030,100 lbs. oatmeal, and 71,404,777 lbs. starch.

Largest Pop Corn Crib

Pop corn cribs with capacity for 9,000,000 lbs. and requiring 250,000 ft. of lumber have been erected at Tarkio, Mo. The crib consists of two duplicate units. They were built for the Manley Co., Inc., to hold pop corn in storage for later shipment to the processing plant in North Kansas City, Mo., where it is cleaned and graded.

Each unit of the crib is 232 ft. long, by 28 ft. wide, and 22½ ft. high. The last 40 ft. of each unit is constructed to dry the ear corn to the proper moisture content for storage.

Each unit is divided into four storage sections, lined with hardware cloth, and covered with standard cribbing boards, properly spaced for adequate ventilation. The roof is of sheet steel, with frequent openings near the ridge thru which pop corn may be dumped into storage sections by means of a hiker. The foundation pillars are of concrete and support the crib well above the ground to protect the contents from weather and rodents.

Machinery in each unit includes an ear corn elevating leg near the middle, with ear corn drags above and below each way from the leg for moving pop corn into or out of storage. Pop corn received in bulk is dumped in a shallow receiving pit in the attached driveway. Loading facilities are provided for both cars and trucks.

The buildings were erected by Younglove Construction Co.



Photo by Preston Cunningham.
Pop Corn Crib of Manley Co., Inc., built at Tarkio, Mo.

The Most Economical Way to Increase Electrical Capacity in Your Plant

By M. I. ALIMANSKY and R. E. INSLEY

WHAT IS POWER-FACTOR?

If we were to ask a group of engineers to give us their definition of power-factor, we probably would receive many different answers. Each person has his own practical conception of power-factor. One of the simplest and easiest to visualize is this one:

"Power-factor" is the electrical term used to denote the ratio of useful power current to the total supplied current in a circuit, and can be best explained by two simple examples;

Example 1

In an electric circuit supplying a load composed solely of incandescent lights, pressing irons, toasters, water heaters or other equipment containing no electromagnets, 100 per cent of the current supplied is used to produce heat, light, or other beneficial results. This circuit is said to have 100 per cent power-factor.

Example 2

However, if the circuit contains magnetic equipment, such as induction motors, transformers, electromagnets, etc., current must be supplied to energize these. This current, known as "magnetizing current" produces the magnetic field. Magnetizing current actually produces no useful power but nevertheless is necessary for the proper functioning of the equipment. If the total current in a circuit were 100 amperes and the power current only 70 amperes, then the power-factor would be—

$$\frac{70}{100} = .70 = 70\%.$$

WHY DO WE WORRY ABOUT LOW POWER-FACTOR?

The generation and distribution system which supplies the circuit of Example 2 must necessarily provide 100 amperes, whereas the actual power current required is only 70 amperes. This means that the electric system must be 100/70 or 143 per cent as large as that of Example 1, in order to provide the necessary magnetizing current.

Low power-factor then means that the existing generation, transmission, and distribution facilities of the power companies may be loaded to capacity, or even overloaded, from the standpoint of current, and yet underloaded from the standpoint of power being delivered. Since, for the same power delivered, low-power-factor loads impose a greater burden than high-power-factor, power companies have been allowed to introduce into their power contracts kva-demand and power-factor-adjustment clauses which impose an extra charge for low power-factor. Similarly, for industrials generating their own power, power-factor is extremely significant, since the power which can be drawn for production purposes is limited by the amount of generator capacity taken up by magnetizing current.

HOW CAN WE IMPROVE POWER-FACTOR?

If some device could be found which could be located near the apparatus requiring the magnetizing current, which device were capable of providing this magnetizing current locally, then it would be possible to eliminate the magnetizing current from the generator and feeders, thus releasing system capacity for additional power-load. Fortunately, such a device does exist; it is called a "capacitor." It is obtainable in many voltage and current ratings to fit the particular application. When such a capacitor is installed in the electrical system which previously had a low power-factor, the power-factor is improved and the system operates more efficiently and inexpensively.

WHERE AND HOW SHOULD CAPACITORS BE APPLIED?

Means for improving power-factor should be applied at the source of trouble. Capacitors connected on circuits with low power-factor reduce the current between the point where they are connected and the source of supply. Therefore, it is imperative that they be installed at or near the terminals of the machine drawing the magnetizing current.

In selecting capacitors, it is possible to work out the optimum value of capacitor rating mathematically, but these calculations are laborious, especially when a number of cases are to be computed. "Short-cut" methods have been devised, as shown in the simplified chart.

CONCLUSION

In many industrial plants, existing circuits, transformers, and switching equipment can be made to carry additional power load by the application of capacitors to improve power-factor. This is especially valuable under present conditions, since capacitors are flexible, inexpensive, and obtainable in relatively short time.

Charles Lawless Passes On

Charles W. Lawless, 78-year-old retired Kansas City grain dealer and former head of the Lawless Grain Co., passed away at his home in Los Angeles, Cal., Nov. 10.

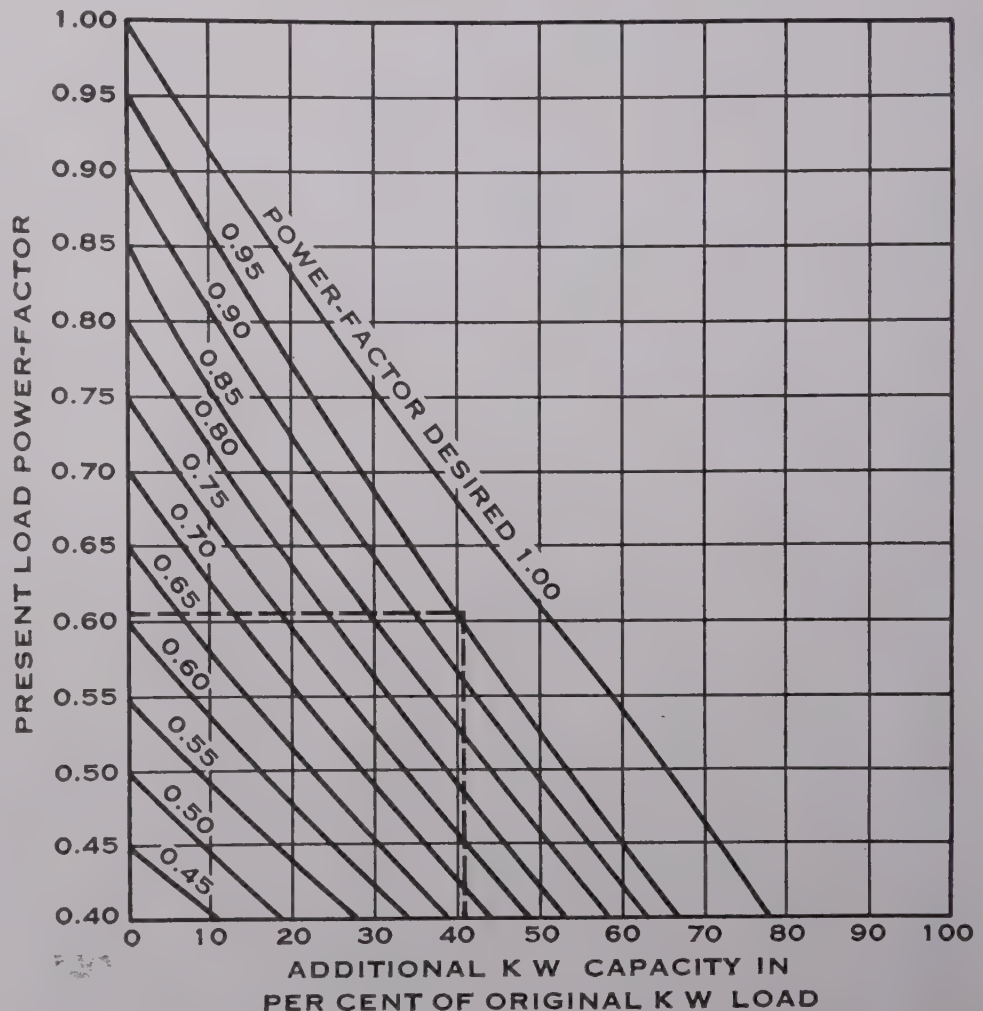
Mr. Lawless, popularly known around the Kansas City Board of Trade as "Pop," had suffered from a heart ailment for several years. He and his wife, Mrs. Louella Lawless, had moved to Los Angeles only last August, tho he had retired from the leadership of his company in 1937.

Mr. Lawless had moved to Kansas City from Nebraska City, Neb., in 1902 to become associated with Rosenbaum Grain Co. When he purchased a Kansas City Board of Trade membership in 1906 he formed the Moore-Lawless Grain Co. with the late Guy Moore. This company dissolved in 1923. In August of the same year the Lawless Grain Co. was formed.

Surviving Mr. Lawless are his wife, two sons, M. J. Lawless, and Charles W. Lawless, Jr., and three daughters.

Corn Products Refining Co. and subsidiary sales companies ended the third quarter with net income of \$7,362,376 after all charges including \$1,125,000 reserve for depreciation and \$7,400,000 provision for federal income and excess profits taxes. This is equivalent to \$2.40 per share on 2,530,000 shares of common stock, and compares with \$1.89 a common share in the first nine months of 1940, when tax deductions totaled \$2,773,431.

Chart to Estimate Gain in Load Capacity



Directions: Draw a horizontal line from point at left representing power-factor. This line will intersect curve representing desired new power-factor. From point of intersection, draw a vertical line to base of chart and read the percent of new load which your power system can carry after installation of capacitors.

Example (dotted line): Suppose present power-factor of a 100-kva load is 60 per cent and desired power-factor 95 per cent. Projection of intersection of 60-per-cent-power-factor line with 95-per-cent-power-factor curve shows that 41 percent new load can be carried after power-factor improvement. That is, 41 kva of new load can be added to present system.

Model Plant at Darwin, Minn.

The Darwin Farmers Elevator Co., Darwin, Minn., has a 33,000 bu. cribbed and iron-clad elevator, and a modern feed grinding and mixing and seed cleaning plant, combined with a one-story warehouse and merchandise sales and display room. The plant was designed and built by the T. E. Ibberson Co. to satisfy the needs of farmers in the Darwin trade territory, where diversified farming is practiced. Altho they are tied together, each building represents an independent unit in the company's facilities.

The elevator rests on a concrete slab foundation. A 14 ft. wide driveway runs thru one side of it, constituting the crosspiece of a T-shaped workfloor. Cribbing divides the structure into 20 bins for segregation of the various grains handled.

Machinery in the elevator includes two legs with capacity to handle 2,500 bus. per hour. One leg carries 11 x 5 inch style "B" CC cups, and is driven by a 10 h.p. motor thru a Winters direct-connected worm gear drive; the other carries 10 x 5 inch cups of the same make, and is driven by a 7½ h.p. motor in the same manner. The boots of both legs set in a large steel tank in the boot pit for protection from flooding and seepage.

Distribution of grain from the leg heads is thru a double distributor in the cupola direct to bins. Grain to be shipped is weighed in a 100 bu. hopper scale on the workfloor, then elevated to a well-casing shipping spout for loading into cars on the Great Northern siding.

A large grain cleaner is located on the workfloor to receive grain by gravity from overhead bins, and deliver cleaned grain to the lofting legs. A steel bin dust house outside the elevator has a large ventilator at its top to allow air from the cleaner fans to escape without creating backpressure.

Grain received is weighed on a 30-ton truck scale in the driveway. The 30 x 9 ft. scale deck carries a new type Strong-Scott telescope pneumatic truck lift to drain bulk grain from farm vehicles thru steel floor grating into the receiving pits. The driveway has overhead and fold-

ing doors to enclose fully while weighing and dumping.

A spout from the elevator leads to an Ibberson distributing system in the cupola of the adjacent four-story mill building, a frame, iron-clad structure having 14 bins for grain and ground products. Equipment of the feed mill includes a Strong-Scott double attrition mill with two 40 h.p. motors and a pneumatic lift to elevate ground products to the meal collector at the top of the structure. Over the mill is a Strong-Scott feed scalper. A one-ton Strong-Scott overhead feed mixer drains into bulk bins and Ibberson sacking spouts.

A unique feature of the feed plant is the facilities for handling ear corn. Chain drags carry ear corn from the receiving pit to a heavy duty Monarch crusher in the basement. The crushed product is elevated by a leg to a Hogmoe cleaner reel in the mill cupola which separates husks and cobs from the shelled corn. The cobs can be spouted back with the shelled corn thru bins to the attrition mill, or they can be spouted away to a cob bin as desired.

A corn cutter is located in the basement also. A leg from this machine carries the cracked corn to a Jacobson grader in the mill cupola. This machine makes three separations, and delivers coarse, medium and fine cut corn to separate bulk bins for sacking or bulk loading into farmers' vehicles.

The feed mill has its own driveway, so that custom grinding operations can be kept separate from grain receiving operations. The mill driveway also has a truck scale, fitted with a Strong-Scott pneumatic truck lift, and covering a receiving sink. An offset window in the mill driveway protects the beam of the scale. Doors at the entrance and exit openings of this driveway may be closed to shut out winter breezes.

The workfloor of the building is at truck-bed height to facilitate loading of sacked products. Bulk bins over the driveway serve buyers of bulk grain service at speeds up to two tons in three minutes. Sacked products are weighed on a Fairbanks dormant scale. Bulk products are weighed on the driveway's truck scale.

A pneumatic sweep system has connections

at dusty points in each building to aid in keeping them clean. Connecting with both the elevator and the feed plant is a large, one-story warehouse and showroom from which sacked commodities, and side line merchandise are retailed. A part of this warehouse is divided into a two-room office, with full basement, a heating plant, and a fire-proof vault. In the basement is the electrical control panel for the entire plant.

The opposite end of the warehouse is a large sales and display room, finished with plywood, and kept bright looking with paint and varnish. The elevator approach end of the warehouse has two large windows in which merchandise is attractively displayed.

The Darwin Farmers Elevator Co. held an Opening Day soon after the new plant was completed. Coffee, ice cream and cake was served the large crowd of visitors, and a program of speaking dedicated the properties to the service of the community.

Annual Meeting State Warehousemen

The third annual conference of the National Ass'n of State Warehouse Departments was held in Denver at the Cosmopolitan Hotel on Oct. 14 and 15. Executive supervising warehouse officials from Illinois, Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, Oklahoma, South Dakota and Wisconsin attended the meeting.

The following officers were elected: Scott S. Bateman, Pres., Warehouse Examiner, Kansas State Grain Insp. Dept., Kansas City, Mo.; J. J. Murphy, Vice-Pres., Commissioner, Public Utilities Commission, Pierre, S. D.; Einar Viren, Sec'y, Secretary, Nebraska State Railway Commission, Lincoln; J. W. Buffington, Chairman of the Legislative Committee, Warehouse Commissioner, Grain Inspection and Weighing Dept., Jefferson City, Mo.

The next meeting will be held in Oklahoma City, Okla., Oct. 1, 1942.

Farm-Stored Grain Spoiling

Minneapolis, Minn., Nov. 19.—Since our last report daily advices have increased the magnitude of the losses being found in the FARM stored grain reserves of our country. About half of the 1941 wheat crop remains in the hands of the producers and the major portion of the corn, oats and barley 1941 crop is still on the farms. Records show that 7¾ per cent of the total wheat receipts from the farm to the Kansas City market during the month of October showed or graded weevily. A similar condition, tho not quite so serious, is found in the Minneapolis market.

It is reported that government agencies responsible for farm stored and sealed grain on farms, alarmed at spoilage reports, have opened farm bins to discover very high percentages of the grain supplies stored in the Southwest infested with weevils; stretching northward into the Dakotas and Minnesota, where insects are usually not a serious problem, untold thousands of bushels of grain show lower condition than thirty days ago due mostly to excessive moisture. Cold weather will have a tendency to retard insect development.

Harvest seasons of the past few years have been exceptionally dry and grain reached the bin for storage in excellent condition. This year the crop was gathered under excessive moisture conditions, which accounts for the reason we hear so much about grain spoilage. Insects are favored by high moisture content of grain and develop rapidly under such conditions. Insects can be controlled by fumigants in the bins of terminal elevators but supplies of non-poisonous, non-inflammable fumigants are not always readily available for farm storage, nor are the facilities for proper treatment satisfactory on the farms.

Far more serious is the high moisture content grain in farm storage, as this grain usually undergoes deterioration before it can be given proper care.—Cargill Crop Bulletin.



Elevator, Feed Plant, Display Room and Warehouse of Darwin Farmers Elevator Co., Darwin, Minn.

Accurate Records Reduce Losses

By O. B. ERICKSON, C.P.A.

A new manager in an Oklahoma elevator put his finger on the weak point of his predecessor. "He was alright," was the verdict. "Only he couldn't appreciate the importance of keeping accurate and adequate business records. Consequently he never knew much about his business except that he had or did not have a balance at the bank. If any one division of the business paid better than any other, he couldn't have known which. And the correction of mistakes was next to an impossibility."

Probably nothing has contributed to the development of accurate accounting among the grain elevators more than has the income tax and the wage and hour law. The information in a bank balance will not satisfy the government. And the government purposely put teeth in the income tax law so that it might be satisfied.

Two essentials enter into the keeping of a set of books, whether it be a simple single entry system meeting the needs of small businesses confined to one or a few items; or the more complicated double entry system commonly used by businesses with a varied number of items, many customers, and a great deal of detail. These are accuracy, and the ability to disclose essential business facts quickly and clearly.

ACCURACY: Sloppy bookkeeping is little better than no system. It creates trouble. It results in errors that must be corrected.

Often it is less costly in time and trouble to make a record accurate the first time, even if it must be checked and re-checked.

Human nature is such that many mistakes in favor of the customer are almost impossible of correction. If a manager undercharges a customer for a load of tankage, and the customer has paid for his purchase, it is embarrassing to go to him and say, "Here. I didn't charge you enough for the 10 bags of tankage you bought. You still owe me some money on them. It will take \$5 to straighten out the account."

There is cost in time, effort and travel to go see the customer. That is the first cost of the mistake. Then in the customer's mind, goes thoughts something like: "What kind of shenanigans is this fellow trying to pull? I bought and paid for that tankage. If he can't charge me the right figure the first time, he's a poor, and undependable businessman. Furthermore, maybe he isn't honest. Probably quoted me the figure at which I bought just to get me to buy, and now comes along with a bill. Maybe there is some foundation to the rumors I hear."

Even if the correction can be made at no loss of time and expense in going to see the customer, the more important second factor still remains, doubt and distrust.

If the reverse happens, and a mistake is made in favor of the company, its correction the next time the customer comes in will make him feel good and favor the company's policy of honesty. But there still remains the time and trouble it takes to explain and correct the mistake, the corrections that must be made on the books; and not unlikely a disposition on the part of the customer to wonder how many mistakes of the same kind the company has made and failed to find. Maybe it owes him more.

BUSINESS INFORMATION: A principal purpose of every set of books is to record financial and business transactions into a continuous history. If accurately kept the books will show whether the business is going forward or drifting into dangerous practices that will eventually drag it down.

Every elevator has some divisions of its business that are responsible for more profits than others. The adequate bookkeeping system searches out these strong divisions.

Knowing the strong parts of his business the

elevator operator can concentrate on those things which give him greatest return, and probably increase profits. Such information forms the base for planning progressive development, and for plugging leaks, and shaking off the leaches that gnaw at profits.

A system is not adequate unless it is so arranged that comparisons can be readily made, and accounts found instantly.

No point exists in preparing elaborate reports from an unjustifiably elaborate set of books. Accounting systems should be considered purely from the relationship they bear to the business. The business itself is of greatest importance.

An Iowa manager, broke and out of a job, went to great trouble to compile a statement of his personal financial ill-being. Apparently during the month he had made \$42.17, had spent a carefully itemized \$43.05, was in the red 88 cents and had a bank balance of 67 cents. He didn't need a bookkeeping system to find that out. Probably what he needed was more management and fewer books.

A simple, concise, and accurate bookkeeping system is an essential in every grain business. Its careful selection to meet the needs of the business and efficiently disclose its condition is one of the first requisites of progressive management.

Kansas City, Mo.—Charles L. Roos, twice president of the Millers National Federation from 1922 to 1924, and long identified with Southwestern milling interests, passed away at his home in Los Angeles Nov. 10, age 80.

The British can obtain, and are getting, large quantities of wheat in Canada. Her purchases there at first were for cash; lately they've been "on the cuff"; the Canadians are shipping the food and will settle later on terms of payment. Thanks to this arrangement, England has plenty of wheat, and flour is unrationed.—Claude R. Wickard, Sec'y of Agriculture.

Books Received

WHEAT STORAGE on the Farm and in the Ever-Normal Granary explains the storage of wheat on farms under loans from the government, illustrates and sketches many types of bins and granaries, with valuable suggestions to farmers on how to keep wheat in condition and control insect pests. Paper, 57 pages, U. S. Dept. of Agriculture, Washington, D. C.

YEARBOOK OF RAILROAD INFORMATION is brimful of facts regarding the railroads of the United States, portraying graphically and statistically the almost unbroken record of efficiency and economy. Most of the figures are from official sources. Equipment, capitalization, taxes, wages, mileage, carloadings of grain and other freight, and transportation costs are covered in this 82-page paper covered brochure issued by the Committee on Public Relations of the Eastern Railroads, New York, N. Y.

BELT ELEVATORS and BELT CONVEYORS, the first edition of which was so well received in 1922 that it called for a second edition, now in 1941 is out in a third edition. The book is not a mere restatement of what already appears in trade advertisements. It explains principles and the reasons for doing things, telling what is new in present day practice and what has become obsolete and why. Every point involved is covered, from the manufacture of a belt, to its installation, operation and use. For leg belts data are given for calculating stresses and horsepower, capacities, descriptions of different styles of buckets, methods of fastening buckets. Explanations are given of numerous failures of belts. By Frederic V. Hetzel and Russell K. Albright; 439 pages, indexed; cloth, \$6; John Wiley & Sons, Inc., publishers, New York.

To Get Rid of or Hold Government Corn

Wm. McArthur of the A.A.A. has indicated that corn would be shipped from steel bins, where it was determined that the corn is going out of condition or is badly located. Some corn will, of course, be moved from country elevators, too.

Duke Swanson, sec'y of the Western Grain & Feed Ass'n, is urging members to take advantage of this opportunity by making effective a survey to determine those points from which it is desirable to move corn from elevator storage.

The information wanted from each elevator is a statement of how much government corn is in store, total facilities, whether or not it is desired to ship any corn; and, if so, from what location. Also there should be noted on the inclosed card if no shipment is desired.

This is the grain dealers' last chance to save themselves from loss due to the government taking their corn before it has earned a full year's storage charges. Immediate action is necessary. Mr. Swanson urges the recipients of his Bulletin No. 77 to call all the other elevators in their vicinity at once and tell them what the Association is doing and the necessity of immediate action on their part. All data collected should be addressed to the Ass'n office at Des Moines, Ia.

Washington, D. C., Nov. 18.—Corn stored in terminal and subterminal elevators is now being offered on the basis of 80 cents per bushel for No. 2 Yellow at Chicago by the C.C.C.

From Abroad

French wheat harvest this year was placed at 70,000,000 quintals, a nearly normal harvest. By direct and indirect requisitions, Germany is reported drawing out of France more than half her agricultural output.

Oriental wheat crops for 1941 are reported as: China, 720,000,000 bus.; Manchuria, 31,000,000 bus.; Japan, 59,366,000 bus.; total, 810,366,000 bus. Five year averages (1931-35) were: China, 780,000,000 bus.; Manchuria, 38,440,000; Japan, 40,372,000; total, 858,812,000.

The Argentine government is selling ear corn on farms at very low prices to encourage its use for fuel. Consumers are asked to mix it with coal and wood. Reports say it can be bought at far northern points for as little as 10c per 100 kilos, the buyer to pay handling and transportation.

England bought 120,000,000 bus. wheat Nov. 18 from the Canadian Wheat Board, the largest single transaction in the history of the wheat markets. Conforming to trade practice Britain will exchange the future for the cash grain as needed. The price is said to be over 70 cents per bushel.

Australian wheat production is placed at 166,096,000 bus. this year compared with 82,639,000 last year and a 10-year average of 164,718,000 bus. Surplus of old and new wheat is now expected to be 139,000,000 bus., a burdensome volume with restricted outlets and few ocean bottoms to carry it.

Argentina Nov. 14 forbade trading in futures of wheat, flaxseed and sunflower seed, effective Nov. 15, and that trades be closed out on the closing price of Nov. 14. A decree dated Nov. 15 authorizes the Argentine Grain Board to purchase 1941-42 crop wheat and flaxseed at a basic price of 54.7 cents per bushel for good quality wheat and about 70 cents per bushel for good quality flaxseed, delivered to the Board in Buenos Aires. The Board will fix differentials for quality and for grain delivered to the Board in other Argentine ports. Actual prices received by farmers will depend on distance from ports. The basic prices are the same as those guaranteed for the 1940-41 crops. Millers must buy all of their requirements of domestic wheat from the Grain Board and at a fixed price of about 72.9 cents per bushel.

The Green Grain Bug

The green grain bug was reported in 1940 by Munro and Butcher as responsible for serious injury to more than 10,000 acres of wheat in one of the southwestern counties of North Dakota, some fields not being considered worth harvesting.

It was originally supposed to be Say's Stink Bug, *Chlorochroa sayi*; but this year has been identified by the U. S. Bureau of Entomology as the green grain bug, *Chlorochroa uhleri*. The differences are minor. They are similar in general appearance, life history and feeding habits.

R. H. Harris and L. D. Sibbitt of the Department of Cereal Technology, and J. A. Munro and Horace S. Telford of the Department of Entomology, N. Dak. Agri. Exp. Station, have recently made a report stating:

It is apparent that the insect injury very ma-



The Green Grain Bug—*Chlorochroa uhleri*

terially affected the weight per bushel, especially in the instance of Rival. The test weight of the wheat as received was raised from 47.5 lbs. to 58.5 lbs. per bushel by separating out the damaged kernels while the more heavily damaged portion, consisting of shrivelled and shrunken kernels, had a weight of only 39.5 lbs. The same relationship is seen in the other two wheats to a lesser extent. These test weight differences are reflected in the grades, which range from No. 1 Dark Northern Spring to Sample Grade Northern Spring in the bread wheat separations, and from No. 1 Hard Amber Durum to No. 5 Durum in the durum. Vitreous kernel content of the samples was also drastically changed by the bug damage, the shrivelled Rival separation consisting entirely of light colored, shrunken kernels.

Not only were the grading factors affected, but the wheat protein content was apparently reduced by the insect injury. In Rival this constituent varies from 16.3 per cent in the plump to 13.6 per cent in the shrivelled portion, a difference which he would expect to be reflected in the baking quality of wheat not subjected to insect attack. The other samples show similar, although less pronounced, differences.

The fine middlings were difficult to reduce, the material forming into small "balls" on the bolter thus making it difficult or impossible to obtain proper separations of the different products. The bran failed to give a clean separation from the endosperm, and the yield of by-products was very high. The flour yield was also reduced from 67.0 per cent to 36.5 per cent in the sample of Rival by bug injury. Smaller reductions in yield were also found in the Thatcher and Mindum millings.

The effect of damage upon baking quality was very striking. The doughs from the more heavily injured samples were "short" and "dead" in character. The plump separations, on the other hand, were quite normal in baking performance. Loaf volume was greatly reduced and crumb color and texture were affected adversely. In the case of Rival the loaf volume fell from 164 cc. for the plump separation to 55 cc. for the shrivelled. The latter loaf was very poor, with dark crumb color and coarse, inferior texture. The same tendencies

are to be seen in the Thatcher loaves, but to a much less marked extent.

In conclusion, it may be stated that not only does the green grain bug reduce the yield per acre, and the grade of the wheat crop which it attacks, but that apparently grave damage to milling and baking quality may occur in terms of lower test weight, protein content, flour yield, and bread quality. There are also grounds to suspect that susceptibility to injury may be linked with wheat variety. This pest therefore constitutes a grave threat to the wheat crop of North Dakota wherever the insect is prevalent.

Driveway Observations

BY TRAVELER

GOOD OIL in a bearing acts as a thin film of flexible globules like flexible ball bearings that take the load and carry it easily and freely. The globules in a good oil are of uniform size and stand to their task for a long time. This uniformity is not present in poor oils, or oils packed with filler. Consequently, poor oils break down quickly.

* * *

TURKEY RAISING centers have shifted to the middle west from the west in the last few years. Turkey production is high in Iowa, Nebraska, Minnesota, Indiana. Rapid, refrigerated, rail and truck transportation to metropolitan market centers, and availability of grain and concentrates have influenced the shift. Both turkey marketing and turkey feeding have changed.

* * *

CARBON TETRACHLORIDE fire extinguishers are handy things to have around when a fire breaks out. But the person who uses them should remember that carbon tetrachloride gas is toxic in poorly ventilated places, that it is heavier than air and settles in the low places like dumps and boot pits. After use of the fire extinguisher, be sure you have someone around to pull you out if you must enter these low spots.

* * *

THE PRIORITIES CLAIM of the defense industries for aluminum is having its effect on the grain elevator industry in that it is creating a shortage of aluminum paint such as is commonly used to weather-proof the iron siding of grain elevators.

A paint salesman informed us a few days ago that stocks of aluminum paint had been curtailed and he could not now sell more than 15 or 20 gallons to any one customer, and even such small amounts were sold under protest.

He thought grain elevators in need of paint jobs and having trouble getting aluminum paint, might turn to enamels. This is a new thought for elevator operators. Possibly it is worth investigation. Certainly, with the number of colors available in enamels, running from Chinese red up thru spectrum to the blues and violets, it is a colorful suggestion.

* * *

IN THE ANNALS of "Our Paper" appears a story about controlling back-drafts in the office stoves of elevators that have the office attached to the side of the elevator, and an office chimney so short that wind pressure against the side of the elevator transfers itself back down the chimney.

C. A. Earl of Plankinton, S. D., is credited with originating the idea of connecting a second stove pipe with the ash pit of the stove, and extending it to the outside of the office on the side of the prevailing winds in order to equalize wind pressures. The pressure of the wind thru this pipe counterbalances the pressure of the back-draft down the chimney, thus allowing the natural draft of the stove to operate in a normal manner. Of course, the pipe to the base of the stove should be of the same diameter as the pipe to the chimney, and it should be fitted with a tight damper so that the draft thru it can be completely controlled.

SCALE TICKETS FOR GRAIN BUYERS

Scale and Credit Tickets—Form 51 Duplicating contains 100 leaves of white bond paper, each leaf bearing five tickets, machine perforated for easy removal, and 100 leaves of yellow post office paper, each leaf bearing five duplicates which remain in the book. Also 4 sheets of No. 1 carbon. Size of book 5½x13½ inches, check bound, well printed. Each leaf is one ticket wide and five tickets deep. Order 51 Duplicating 500 tickets. Price, \$1.00, plus postage. Weight, 1½ lbs.

Crop Delivery Record (Duplicating) — This multiple load scale ticket form has two tickets to a page so that grain from two farmers may be recorded without turning a leaf. Each ticket is ruled to record receipt of 23 loads including the date, hauler's name of each load, gross, tare and net, and has spaces at the bottom for recording the total bushels, the price, the check number, and the total amount paid in settlement. Especially convenient when a farmer sells his entire crop at one time, delivering all of it within a few days. Originals (120) of attractive goldenrod bond paper, 120 duplicates of manila, and 3 sheets of No. 1 carbon paper to the book, with heavy gray pressboard covers, cut flush. Spiral wire bound so that open book lays flat, or may be folded back upon itself in open position to facilitate entries. Size, 8½x10½ inches. Shipping weight, 2 lbs. Price, \$1.10 each, plus postage. Order Crop Delivery Record, Form 69 Spiral.

Improved Grain Tickets—Using Form 19GT as a scale book saves much time and labor as one writing with the use of carbon will give you a complete record and a ticket for the hauler. Each of the 125 original leaves bears four scale tickets, printed on white bond, machine perforated. Each ticket is 3 inches wide by 6½ long. The 125 duplicate leaves are printed on manila, but not perforated. Check bound at top of tickets with hinge top cover, 500 tickets in each book arranged horizontally. Each book is 7½x12 inches, supplied with 5 sheets of No. 1 carbon. Duplicating. Weight, 2½ lbs. Order 19GT Dup. Price \$1.20, plus postage.

Triplicating is the same as 19GT Duplicating. In addition, sheets of strong white tissue are bound in between the original tickets and the duplicates so as to facilitate making three copies with one writing. Five sheets of dual-faced No. 1 carbon, 375 leaves. Weight, 3 lbs. Order 19GT Trip. Price \$1.65, plus postage.

Scale Ticket Copying Book — Contains 150 leaves bearing 600 originals and 600 duplicates, four originals and four duplicates printed on each leaf and perforated so outer half of each leaf may be folded back on the duplicate, thus giving an exact copy of all entries on the original. Leaves of white bond are machine perforated between tickets so they may be easily removed without tearing. Duplicate remains attached to original until all entries are completed. Check bound, size 9½x11 inches, and supplied with 6 sheets of No. 1 carbon. Order Form 73. Weight, 2½ lbs. Price, \$1.30 plus postage.

Duplicating Scale Ticket Book — A labor-saving scale ticket book in which the buyer keeps a carbon copy of the entries made on every scale ticket issued, so altered or spoiled tickets may be readily detected. This book contains 100 leaves of white bond paper, machine perforated, bearing 800 tickets, inter-leaved with 100 blank manila sheets. Well printed and bound in heavy board covers. Supplied with 4 sheets of No. 1 carbon paper, size 8½x11 inches. Order Form 62. Price, \$1.40, plus postage. Weight 3 lbs.

Duplicating Wagon Load Receiving Book—This book is designed to facilitate the work of country buyers during the busy season when each farmer is delivering a number of loads daily. Each leaf bears two tickets and is perforated down the middle so that when the sheet is folded back on itself, and a sheet of carbon inserted, an exact duplicate will be made of each entry on the other side of the sheet. Each leaf has room for name of farmer and the hauler's of 34 loads in duplicate. Outer half may be torn out and given to the farmer or sent to headquarters of line company. The book is 12 x 12 inches, check bound with heavy boards, contains 225 leaves ruled both sides, and nine sheets of No. 1 carbon. Order Form 66. Weight, 4 lbs. Price \$2.60, plus postage.

Cash with order for twelve copies of any of the above books earns 10% discount.

GRAIN & FEED JOURNALS CONSOLIDATED

327 So. La Salle St., Chicago

Supply Trade

St. Helens, Ore.—The Jaite Co., manufacturers of multi-wall bags since 1928, has been purchased by the Bemis Bro. Bag Co. It will continue to be designated as the Jaite Bag Co.—F.K.H.

Washington, D. C.—Builders' hardware items to the number of nearly 100 went under price ceilings Nov. 19, by order of the Office of Price Administration, and manufacturers are expected to stabilize quotations at the level of Oct. 21.

Sidney, O.—The Sidney Grain Machinery Co. has issued its 216-page Catalog No. 82 covering "The Sidney Line" of grain machinery. Well illustrated, and carefully indexed, this catalog which celebrates the 82nd anniversary of the founding of the company which was started by Philip Smith in 1859, shows a long list of corn shellers, grain and seed cleaners, feed mixers, corn crackers and graders, elevator heads, boots, legs, screw conveyors, gears, and gear boxes, bearing hangers and bearings, couplings, spouts, belting, etc. Copies are available on request to the company.

East Pittsburgh, Pa.—The second 1941 revision of the popular "Quick Selector" catalog is announced by Westinghouse Electric & Mfg. Co. Issued twice a year, this 60-page catalog has found wide use because it simplifies the selection of electrical equipment for any motor, lighting, or feeder circuit. Although all data has been brought up to date, the general form of the catalog has been retained. Electrical ratings, physical dimensions and circuit diagrams expedite the selection of correct equipment for each purpose. A copy of "Quick Selector" catalog may be secured from department 7-N-20, Westinghouse Electric and Mfg. Co.

Ergot Found in Rye

Several crop observers have noted a heavy infection of ergot in the rye fields of South Dakota and insist the fact that the ergot bodies have grown so large on the heads of rye that they were easily removed by the threshing machines. However, many of these large ergot bodies were broken in the operation and found their way into the grain. A small per cent of ergot found in rye, durum, or any other grains reduces the value, and discounts are generally heavy in order to take care of the expense of removing the ergot before it is used for food or feed.

Ergot is a fungus disease of grasses and grains, particularly rye, which attacks and absorbs the entire kernel; usually one, sometimes two or three kernels on a head of grain.

Ergot is an active poison, causing abortion in cattle. It is used medicinally in small quantities. Bread made from ergotized flour is apt to cause sickness, if not death, from poisoning.

Ergot has an interesting but rather peculiar life history. The fungus, which is really a flowerless plant and a parasite, since it lives upon growing plants, produces thousands of tiny seedlike bodies called spores, which are scattered by various means. One of these alighting upon a flower of the rye, for example, works its way into the growing, undeveloped fruit grains by means of long threads called mycelium. Within and without the grains, millions of so-called summer spores are produced rapidly so that they may be scattered before the seed coats of the grains have grown too hard to pierce. One or two weeks after infection, a sweet liquid, called "honeydew," very attractive to insects, is formed. Moths and bees seek the liquid and carry away with it innumerable spores, some of which fall upon yet unripened grains, and so the disease is scattered.

The growing spores pierce the soft coats and

begin drawing out the nourishment, growing by means of it. In place of the grains, a dark purple, sticky mass called a sclerotium is then formed, which is rich in starch, fats and oils. This is the commonly recognized form of ergot and is the source of the drug of the same name used in medicine. The sclerotia fall to the ground, and being stored with nourishment, are capable of living through the winter. In the spring they produce spores and the cycle begins once more.

Infected grain and grass crops are a menace when fed to livestock and cause the disease known as Ergotism. Cattle, horses, mules, sheep, hogs and poultry are susceptible to the disease. It is not as common to man as in past centuries, but is still found in the peasant class of certain European countries, especially in the Baltic provinces of Russia and Germany, where it is caused by eating bread made from ergotized grain. As there is no effective antidote for ergot poisoning it must be controlled by removing the cause or preventing consumption.

Buyers of rye or durum wheat, or any grain used for food or feed, are very particular to see that the grain does not contain ergot, as ergot can only be removed by floating it off in a salt water solution. The same precautions are necessary when the grain is used for seed, when it must also be washed in clean water to remove the salt.—T. R. Shaw, in the *Cargill Crop Bulletin*.

New Sampling Charges at Chicago

The fees authorized to be collected by the grain sampling department of the Chicago Board of Trade have been completely revised and have been as follows since Oct. 15:

PART I. RECEIPTS IN BULK

A—Grain or seeds sold or warehoused on Chicago grades, except grain arriving in trucks, shall be resampled. The charge shall be—

- (1) On carlot sales \$1 per car, to be paid by the seller. 20c of which the seller shall collect from the buyer.
- (2) On grain for warehousing, a charge of \$1 per car shall be collected from the initial receiver on consignor. In case the commodity for warehousing is acquired by the warehouseman from a receiver, then the receiver shall collect from the warehouseman 20c per car of this \$1 charge.
- (3) On grain arriving by vessel or barge, when purchased or warehoused on Chicago grades, the charge shall be 35c per 1000 bus or part thereof, said charge to be collected from the initial receiver or consignee. In case vessel or barge grain is acquired by the warehouseman or buyer thru a receiver, then the receiver shall collect from the warehouseman or buyer 15c per 1000 bus of this 35c charge.
- (4) In the event of actual sampling of grain or seeds arriving in trucks the charge shall be 50c per truck, to be collected from the parties ordering such sampling.

B—(1) On grain or seeds arriving and unloaded at Chicago elevators, from trucks whether or not sold or warehoused on Chicago grades or from barges, not sold or warehoused on Chicago grades, the charge shall be 20c per 1000 bus or part thereof, without actually being sampled, to be paid by the buyer.

- (2) On grain or seeds received in Chicago by buyers via rail from outside markets, not sold or warehoused on Chicago grades, the charge shall be 25c per car, to be paid by the buyer, without actually being sampled, but in the event such is actually sampled the regular carlot charge is to be paid by the buyer.

PART II. SHIPMENTS IN BULK

In the event this Department shall be called upon to resample grain or seeds for outbound movement from Chicago, the following charges shall be assessed:

- (A) Carlots, 75c per car;
- (B) Vessel or barge lots, 50c per 1000 bus or part thereof. Charges to be collected from parties ordering the resampling.

PART III. RECEIPTS OR SHIPMENTS IN BAGS

The fee for resampling grain or seeds in bags shall be \$2 per car or \$1 per 1000 bus or part thereof, in vessels or barges.

The Last Word in Clark's Direct Reduction Grain Tables

Carefully printed from large clear type, using jet black ink, showing the bushels directly beside the weight of grain reduced and distinctly separated by rules and spaces so as to prevent errors in reading. The most practical, the most helpful grain reduction tables will return their cost every day of the busy season in labor and time saved and errors prevented.

The spiral binding keeps the cards flat, in regular sequence, and prevents the exposure of more than one grain at a time so it is easy to keep wide open the tables for the grain being received.

Form 3275 Spiral includes tables giving direct reductions of any weight of grain, from 600 to 12,090 lbs. to bushels of 32, 48, 56, 60, 70 and 75 lbs. by 10 pound breaks. This set of Clark's Direct Reduction Grain Tables weighs 2 lbs. Price \$1.50 plus postage. Order 3275 Spiral.

Truck Loads to Bushels. Just what you have been wanting. Now let the big trucks come, so you can determine with a glance the number of bushels and pounds over in each load truck delivers. These six Clark's Direct Reduction Grain Tables continue the reductions made by Form 3275 Spiral, and have a range from 12,100 to 23,090 pounds. Reductions are by 10 pound breaks into bushels of 32, 48, 56, 60, 70 and 75 lbs. Shipping weight, 2 lbs. Price, only \$1.50, plus postage. Order No. 23,090 Spiral.

A combination of Form 23,090 Spiral, with Form 3275 Spiral gives complete reduction of all grains specified in a range from 600 to 23,090 pounds. Both sets of tables now for only \$2.60, plus postage. Shipping weight 3½ lbs.

Send all orders to the semi-monthly

Grain & Feed Journals

Consolidated

327 S. La Salle St.

Chicago, Ill.

Shipping Notices

(Form 3—Duplicating)

It is to shipper's advantage to advise receiver, broker or buyer promptly of any shipment of grain loaded for his account and of real help to consignee in handling shipments efficiently and without demurrage. Shipping notices Form 3 contain spaces for

"Date B/L, Initials, Car Number, Seal Numbers, Kind and Grade, Station From, Weight, Bushels. Billed shipper's order notify; draft for \$.....; made through bank of to apply on sale of bushels made"

Fifty white bond originals, machine perforated, easily removed without tearing, and 50 manila duplicates. Heavy pressboard, hinged top cover, with two sheets of carbon. Size, 5½x8½ inches. Weight, 8 ozs. Order Form 3 SN. Single copy, 70c; three copies, \$1.85, plus postage.

For Sale by

Grain & Feed Journals

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327 S. La Salle St.

Chicago, Ill.

Grain and Feed Trade News

Reports of new elevators, feed mills, improvements; changes in firms; fires, casualties, accidents and deaths are solicited.

CALIFORNIA

Petaluma, Cal.—Ed Durr, member of the executive com'te of the California Hay, Grain & Feed Dealers Ass'n, addressed a recent meeting of the Sonoma County Farm Bureau on feed supplies and prices.

Cupertino, Cal.—The new feed mill at the R. Cali & Bros. grain plant has been placed in operation. The new structure, built of galvanized construction, houses both the new mixer and one formerly located in the original structure, now used for storage. The plant will have a capacity of 20 tons per day when all machinery has been installed, Joe Cali, plant superintendent, stated.

CANADA

Winnipeg, Man. — The Northwest Line Elevators Ass'n of Winnipeg announces that a memorandum has been forwarded to the chairman of the Canadian war time prices and trade board urging a ceiling price on wheat to be set at not less than \$1.02¼ a bu., basis No. 1 northern at Fort William. It also states that there are strong arguments for a ceiling of \$1.35¼ a bu., basis No. 1 northern at the lakehead.

Edmonton, Alta.—John Gillespie, 71, pioneer western grain merchant, died Nov. 19 in a local hospital. He came here from Fort William, Ont., in 1906. Mr. Gillespie was president of the Gillespie Grain Co., Ltd., which has branches thruout the west, operating 68 country elevators and a terminal at Victoria, B. C. He at one time operated an elevator on No. 2 island, Fort William, Ont., the towering shell of which still is a landmark on the Kam River edge of the island.

COLORADO

Durango, Colo.—The Farmers Supply will build a 75 x 50 ft. tile building to be used as a feed grinding and cleaning room and for warehouse purposes. Garland Neel will have charge of construction, the building to be ready for operation by the first of the year.

ILLINOIS

Palmyra, Ill.—W. A. Kemp will operate a feed store in the building he recently purchased.

Danvers, Ill.—H. R. Redding, Randolph, Ill., has purchased the John H. Greiner feed business.

West Union, Ill.—The W. H. Matteson elevator was damaged by high winds recently. The loss was small.

Woodstock, Ill.—The former Pioneer Feed Mills now are being operated under the name of Midwest Feed Mills.

Modesto, Ill.—William Rice and Paul Hierman have moved their feed store from Palmyra to the Palmyra-Modesto Grain office here.

Breese, Ill.—Breese Grain Co. purchased a corn sheller, rotary cleaner and 9 x 5 bucket elevator from the Sidney Grain Machinery Co.

Leonore, Ill.—Selvin Frangenberg, employed at the Leonore Grain Co., and Miss Nellie Driskill of Columbia, Mo., were married recently.

Harrisburg, Ill.—Charles V. Parker, 70, head of the Parker Grain & Timber Co. among other business interests, died unexpectedly at his home Nov. 10.—P.J.P.

Manlius, Ill.—Burt B. Miller, who at one time operated the grain elevator here for S. C. Bartlett Co., later engaging in other business, and former mayor, has announced his candidacy for county treasurer on the Republican ticket.

Mason City, Ill.—The office and feed store of the Ainsworth Ice & Feed Co. were entered by burglars the night of Nov. 6 and loot estimated at \$1,000 was taken.

Milledgeville, Ill.—Charles Spurgeon Thorpe, 83, operator of a grist mill for many years and a prominent Carroll County farmer, died recently at his home near here.

East St. Louis, Ill.—James H. Donahue, 76, former director of the East St. Louis Grain Inspection Bureau of the Illinois Dept. of Agr., died, recently, after a day's illness.—P. J. P.

Wyoming, Ill.—Jack Flahrer has sold his interest in the feed and hatchery business he has operated with his brother Marvin, to his brother, and has gone to Lewiston to open a similar business.

Cuba, Ill.—M. M. Waughtel, 82, who operated elevators here and at Smithfield for many years, and known widely as grain and stock buyer, banker and farmer, died at his home west of here recently.

Peoria, Ill.—The Farmers Grain Dealers Ass'n of Illinois will hold its annual convention in the Pere Marquette Hotel here, Wednesday and Thursday, Feb. 11 and 12, announced Sec'y Lawrence Farlow.

Galesburg, Ill.—The Galesburg Soy Products Co. plant was compelled to shut down for a time because of lack of materials due to the inability of farmers to harvest soybean crops in muddy and flooded fields.

Cullom, Ill.—The Cullom Co-operative Grain Co. elevator was destroyed by fire Nov. 5 together with its contents, 40,000 bus. of oats, 3,000 bus. of corn and 250 bus. of soybeans. The loss was covered by insurance.

Mason City, Ill.—James P. McCreery, 65, grain merchant, was seriously injured in an automobile collision near his home Nov. 5 caused by rain and slippery streets. He was removed to the Springfield (Ill.) Hospital.

Adair, Ill.—Harry Maxwell, manager of the Bader & Co. elevator here a number of years ago, died, Oct. 30, of pneumonia, at St. John's Hospital, Springfield.

Anna, Ill.—Carl Wiedlocher of the Anna Flour & Feed Co. is installing a new sheller and corn cutter in the Illinois Central freight depot building.—H.H.H.

Beason, Ill.—Charles Schmitt, president of the Beason Farmers Grain Co., and sec'y and director of the Illinois Grain Corp., was re-elected to his third three-year term as member of the Sixth District Farm Credit Board.—P. J. P.

Decatur, Ill.—Spencer Kellogg & Sons, Inc.'s \$250,000 soybean plant will be in operation in January, Howard Kellogg, company president, announced Nov. 19. The new plant will double the production of soybean oil here, he stated.—G. E. T.

Brighton, Ill.—L. M. Well has acquired the Brighton elevator on conditional sale. Improvements to be made at the structure is expected to include a smokestack to replace the one which was blown down. Jos. B. Swan & Son, who have been occupants of the elevator, will remove to George Schwab's elevator and continue in the feed and coal business.

Vandalia, Ill.—Victor Wiss and C. R. Palmer have taken over management of the Elam Grain Co. elevator and service station. Mr. Palmer, who has had 12 years experience in the feed business was located at Pana before coming here about a year ago. Mr. Wiss has had many years experience in gasoline business here and plans to enlarge the local station's service thru wholesaling as well as retailing.

Lovington, Ill.—Bowers Bros. recently completed a 55 x 20 ft. steel storage bin of 12,000 bus. capacity, at their elevator. The new bin is designed primarily as storage space for soybeans but can be used for other grains. The bottom has been sloped to make it empty automatically. There is a steel ladder both inside and outside and a trap door in the top, so that the bin may be entered at any time regardless of the amount of grain it may be holding. The Bowers brothers put their original ideas into designing the bin. Recently their elevator was recovered with galvanized iron and an entire new office built and scale installed.

Findlay, Ill.—Kenneth Park, employed at the Findlay Grain & Coal Co., elevator, miraculously escaped death Nov. 5 when he accidentally backed into a line shaft in the cupola at the elevator. As his clothing caught on a chainless sprocket wheel he was knocked unconscious, and his body was banged about until all his clothing was torn from it, allowing him to fall a distance of about nine feet into a corn bin. There he was found by fellow employees, who, noting his continued absence, went to investigate. His boots and sox were all that remained on him; the remainder of his clothes were wound around the shaft. Removed to a hospital he was found to have sustained a fractured bone in his ankle and severe body bruises. Mr. Park had been up on the grain cleaner in the cupola and was coming down when the accident occurred. As the small sprocket wheel on the line shaft which he accidentally backed into caught the tail of his buttoned up jacket, his head was jerked violently back against the sprocket or shaft, knocking him unconscious and rendering him helpless either to protect himself or summon aid. He is reported recovering and able to be up a short time each day.

Beware!

Notwithstanding we have frequently warned our readers of the sharp practices of unauthorized subscription solicitors, a number of swindlers using different names, but having no certificate of authority from us, continue to collect money for the Journals without ever being in our employ or having authority to represent us in any capacity. Calling on grain dealers, they always know that your subscription has expired and urge an immediate renewal for a long term. C. M. Balsley has forged our name to checks without authority and without sending us checks, money or order. Your bank should credit your account with all forged checks and return them to the agency presenting them for payment. Any information which will assist in stopping the swindling practices of these sharpers will be most gratefully received.

Grain & Feed Journals

CONSOLIDATED

CHARLES S. CLARK, Mgr.

Hanna, Ill.—The Farmers Feed & Supply Co. recently sponsored a "feed" meeting at the Taylor Hotel which was attended by over 100 farmers in this district. Harry Winchester of Mankato, Minn., was the principal speaker of the evening.

Greenfield, Ill.—The Greenfield Farmers Co-op. Grain Co. filed a suit in circuit court Oct. 27, challenging validity of a ruling of the state finance department requiring payment of the sales tax on retail sales of grains and feeds which are fed to livestock or poultry. Several other similar actions are on file in the court seeking to establish legality of the rule. The Greenfield Co. was granted an injunction restraining the state from transferring from the protest fund \$101.71 already paid under the ruling.

Peotone, Ill.—The Peotone Farmers Elvtr. Co., a new company, has purchased the north end elevator from H. W. Deininger & Son and will take possession Dec. 28. Mr. Deininger will remain as grain buyer for the new concern until a manager has been employed. Grain now in the house or to be delivered under contract to the Deiningers is not included in the sale, such grain to be shipped out by the old firm. Officers of the Farmers Company are Charles Gast, pres.; Thos. Tong, v. pres.; Edw. Dreckslar, sec'y-treas.

CHICAGO NOTES

Recent sale of memberships in the Board of Trade were at \$300.

Vernon F. Larson, with M. L. Vehon & Co., has been admitted to membership in the Board of Trade.

The rate of interest for the month of November has been fixed by directors of the Board of Trade at 5 per cent per annum.

John P. Heinz & Co., is a new partnership formed by John P. Heinz and Edward J. Heinz, both members of the Board of Trade.

Charles D. Jones has been appointed to Arcady Farms Milling Co.'s service staff. He has been active in poultry and feed circles throughout the middle west.

Spencer Kellogg & Sons, Inc., is continuing the change over from hydraulic presses to another extraction process in the production of linseed oil in its local plant.—G. E. T.

John H. Yourt, 84, a member of the Board of Trade from 1886 to 1891, died at his home in Belvidere Nov. 15. Mr. Yourt, who inherited a fortune from his father, was involved in several disastrous wheat deals on the board and lost most of his money. At one time he owned the Saratoga Hotel.

Shearson, Hammill & Co., about Jan. 1 will move its principal office to the fourth floor at 208 So. La Salle, where the firm has occupied quarters on the main floor for many years. At that time Leeds Mitchell, Chicago partner of Winthrop, Mitchell & Co., will become a partner of Shearson, Hammill & Co., and the local business of Mitchell's firm will be consolidated with that of Shearson, Hammill & Co.

INDIANA

Montezuma, Ind.—Parke County Farm Bureau has installed a Sidney Electric Truck Hoist.

Hebron, Ind.—Matthew J. Brown, 84, who operated the Hebron elevator until he sold it to the Farmers Equity Co., died Nov. 15 at his home five miles west of here.

WILLIAM OLSON & CO.

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Evansville, Ind.—Charles Munn & Sons have installed a new all steel and concrete 40-ton truck scale.—H.H.H.

Eaton, Ind.—Managers and employees of Goodrich Bros. Co. held a dinner meeting here the night of Nov. 12.

Poseyville, Ind.—Work is being rushed to complete the new addition to the Poseyville Grain & Feed Co. elevator.—H.H.H.

Lippe (Mount Vernon p.o.), Ind.—Ben Hartman, who has been operating the local elevator, is Indiana state oil inspector.—H.H.H.

Durbin, Ind.—Goodrich Bros. Co. recently installed a No. 3 Kelly Duplex Vertical Feed Mixer, 1½-ton capacity with motor drive.

New Carlisle, Ind.—The New Carlisle Grain Co. installed a new drag, and corn sheller bought from the Sidney Grain Machry. Co.

Loogootee, Ind.—Everett Jones, 53, who for many years owned and operated a flour mill, died recently after a short illness.—W. B. C.

Snow Hill, Ind.—The Snow Hill Grain Co. has installed a No. 4 Kelly Duplex Vertical Feed Mixer, 2 ton capacity with motor drive.

Reynolds, Ind.—Brownie Feed Store recently purchased the Theodore Wright Coal Yard. A new hammer mill has been installed in the store.

Columbia City, Ind.—Allied Mills, Inc., thru the efforts of Columbia Grain Co., presented a free magic show here Nov. 7 that drew a large and appreciative audience.

Decatur, Ind.—McMillen Industries has established a department of labor relations for its three local plants, with Max Schafer, former conciliator with the Indiana department of labor as the directing head.

Attica, Ind.—The feed business formerly owned by J. O. Marlatt has been sold to the Hackett Hatchery & Feed Store. Carl Hackett formerly was manager of the Hi-Quality Hatchery at Champaign, Ill.

Michigantown, Ind.—The Steinhart Grain Co., who some time ago purchased the Davis Grain Co. elevator and placed Joe Ebert in charge as manager, has enlarged the bins and made other worthwhile improvements at the elevator during recent months.

Boswell, Ind.—A large addition to the Corn Belt Feed Co. was recently completed and new and improved machinery has been installed. A new lighting system has been placed in operation in the office, which has been remodeled and made up-to-date in every respect.

Tocsin, Ind.—When robbers attempted to enter the office of the Tocsin Grain & Lumber Co. one night recently, they left the headlights of their automobile burning. This aroused the curiosity of Mgr. Garth Woodard who lives nearby. When he switched on his porch light preparatory to investigation, the robbers fled.

Monon, Ind.—The Standard Elvtr. Co.'s elevator, one of the largest in northern Indiana, was destroyed by fire Nov. 13, believed to have started by spontaneous combustion. The large frame storage elevator contained 20,000 bus. of oats, a quantity of soybeans and other grain. Workmen had just started to load the grain for shipment and had one car loaded before the fire broke out. The elevator was one of two operated here by the company. Fuller Huffman is manager.

South Bend, Ind.—Motions filed by the Eastern Indiana Grain Dealers Ass'n and other defendants to dissolve a preliminary injunction and to discuss the complaint as brought by union labor leaders were sustained recently by Federal Judge Thomas W. Slick. The restraining order which the court revoked had been issued to halt alleged violations of obstructing collective bargaining, interfering with pickets and endeavors to discourage employees from unionizing. The suit was filed by Stanton A. Sweeney and others against the Haynes Milling Co. of Portland, the grain dealers ass'n and others.

West Middleton, Ind.—The Sellars Grain Co. elevator has been purchased by the Howard County Farm Bureau co-operative, the new owner taking possession Nov. 1. The present good service of the elevator will be continued and other lines added gradually.

Indianapolis, Ind.—A resolution urging an investigation by the Indiana congressional delegation "to determine how much wheat is being held by the government, amount of surplus wheat in the United States, where it is stored, how much has disappeared since July 1 and the physical condition of present inventories" was passed recently by the board of directors of the Indiana Marketing Quota Protest Ass'n meeting here.—W. B. C.

IOWA

Dike, Ia.—The Farmers Elevator was broken into recently but nothing was taken.

Colo, Ia.—Erville Bowers has been elected manager of the Colo Farmers Elevator.

Reinbeck, Ia.—Burglars who broke into the office of the Pioneer Corn Co. recently got no loot.

Riceville, Ia.—Henry Lenth, local feed merchant, is building a warehouse to be used for feed storage.

Altoona, Ia.—Geo. Todd Contr. Co. has a contract to install a 20-ton Fairbanks Scale for the Des Moines Elvtr. Co. and build a new office.

Lidderdal, Ia.—Earl King is new manager of the Farmers Co-op. Elevator. He formerly was employed at the Farmers Elevator at Albert City.

Massena, Ia.—The Farmers Co-op. Elevator Co. has let a contract to Geo. Todd to install a 30-ton, 10x40 ft. Fairbanks Scale with type registering beam.

Winthrop, Ia.—Robert Schacherer, formerly manager of the St. Anthony & Dakota Elvtr. Co. elevator at Bernard, has been made manager of the company's local elevator.

Garden City, Ia.—The Farmers Co-op. Elevator is putting in new foundations, new 14x42 ft. driveway with new overhead travelling lift. The elevator is being covered with galvanized iron and given a new roof. Smith Const. Co. has the contract.

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Contact sprays kill insects by actual contact of their mist. Death is due to clogging of breathing openings and corrosive action. Fumigants kill insects through the toxic action of their gases over a period of time. Duration of concentration is necessary. Therefore, fumigant gases must be confined for effective results.

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Alleman, Ia.—The Farmers Co-op. Elevtr. Co. elevator has been iron sheathed, repaired and both it and the feed mill completely rewired. The George Todd Const. Co. did the work.

Bernard, Ia.—Leonard Peterson, who has been assistant manager of the St. Anthony & Dakota Elevtr. Co. elevator at Winthrop, has been made manager of the company's local elevator.

Gladbrook, Ia.—A soybean mill to be operated by Paul Klinefelter of Conrad is being built here, to cost \$30,000 and be ready for operation by Jan. 1. The Gethmann Const. Co. has the contract.

Redfield, Ia.—Lee Parmenter recently resigned as manager of the Des Moines Elevtr. Co. elevator and has accepted a position with the W. & H. Co-op. Oil Co. Lowell Luing is now manager of the elevator.

Anamosa, Ia. — The old wooden corn cribs on the Anamosa Elevator property have been razed and a steel crib 38 x 8 ft. and 14½ ft. high, hopper bottom, capacity 12,500 bus. of ear corn, will replace them.

Floris, Ia.—Allen H. Plank, 81, who operated the Panada Roller Mill here for many years until 1914, and who, for many years before coming here operated a mill at Pulaski, died, recently, at his home in Eldon.

Callender, Ia.—The building formerly occupied by the Des Moines Elevtr. Co. and used as their offices and scale house is undergoing a complete remodeling and renovating by the new owner, the Farmers Elevtr. Co.

Coulter, Ia.—The Farmers Elevtr. Co. recently installed a 30-ton Soweigh Scale with 10x40 ft. concrete deck and new style grain beam; buckets and high speed leg, and driveway improvements. The Smith Const. Co. had the contract.

Carroll, Ia.—Virgil W. Welp and his father, E. O. Welp, of Haverhill, have bot the Leo Brinkman elevator from Mr. Brinkman and are in possession. The new owners will operate as the V. W. Welp Grain Co. with Virgil W. Welp as manager.

Thor, Ia.—The Thor Grain Co. is installing a new five-ply rubber covered belt and Calumet High Speed Buckets; new leg with high speed head drive; new dump sink and grates and a 20-ton 9x34 ft. concrete deck scale. The Smith Const. Co. has the contract.

Jewell, Ia.—Mrs. Charles E. Glaman has installed a one-ton vertical electric feed mixer at her feed mill, and erected a rat and mouse-proof room as an addition to the plant to house the new equipment. Custom feed grinding and mixing will be specialized in.

Morrison, Ia.—Thieves broke into the office of the Farmers Elevtr. Co. the night of Nov. 12, broke the dial on the safe in an unsuccessful attempt to open it, ransacked the place but got no loot. Entrance was gained by cutting a hole in the rear door thru which a hand could be thrust, and unlocking the door.

Portsmouth, Ia.—Work has been completed on a grain storage of 40,000 bus. for the Des Moines Elevtr. Co. There are six bins cribbed with 2x10, 2x8, and 2x6. The storage is filled with a transfer spout from the main elevator and is emptied by a screw conveyor. The building is iron clad. Geo. Todd had the contract.

Huxley, Ia.—The Munn Lumber Co. has just completed a 25,000-bu. cribbed storage with 2x6. A 12 inch screw conveyor delivers the grain to the bins and also the same size conveyor takes the grain out of the bins. The storage is built on a reinforced concrete slab construction. Geo. Todd Construction Co. did the work.

Jordan, Ia.—A. Sterner & Co. have completed a cribbed, 32,000-bu. grain storage consisting of nine bins, five of which are overhead which can be loaded into trucks without running any machinery. This additional storage gives the company a local capacity of 200,000 bus. A brick and tile office also was built and a 30-ton Fairbanks Scale with printomatic dial installed. Geo. Todd Const. Co. had the contract.

Monticello, Ia.—George Harris, who has been manager of the St. Anthony & Dakota Elevtr. Co. elevator at Winthrop, has been transferred here to manage the company's local elevator.

Spencer, Ia.—The Wood Elevtr. Co. held open house Nov. 22 following purchase of the Tuttle Elevator last month. Charles Wood is manager, operating the business in connection with his elevator at Langdon. Lunch was served starting at 11 a.m. and continuing until 3 p.m. Special demonstrations and instructions by feed experts featured the day's program.

Fort Dodge, Ia.—Mrs. Elizabeth Christensen, 56, wife of George Christensen of the Christensen Grain Co., died unexpectedly of a heart attack early Nov. 7. She had many friends in the grain trade, and often accompanied her husband to national and state conventions of the grain ass'ns. News of her death comes as a distinct shock to them. Mrs. Christensen was born in Farnhamville but with her husband had resided here for the last 25 years.

Schaller, Ia.—The Central Popcorn Co. is building a 104 x 30 ft. storage building, 16 ft. from floor level to plate, 31 ft. from floor level to peak. A floor will be laid at the plate level for an upper storage space. The new structure is designed for conversion later into a garage and machine shop on the main floor.

Emmetsburg, Ia.—The first of a series of meetings to be conducted by the Kerber Milling Co. on "Better Feeding" in connection with the defense program was held the evening of Nov. 18 in the Hotel Kermore with more than 120 farmers in attendance. Special guests were C. M. Storms and Carroll Swanson, Iowa Feed Co., Des Moines; Walter Berger, Des Moines Oats Products Co.; Hugh Kelley, Kelley Feed Co., Des Moines; Duke Swanson, sec'y Western Grain & Feed Dealers Ass'n; Jim Olson and Melvin Peterson, Davenport Elevtr. Co., West Bend; Jensen Bros., Golden Sun Milling Co., Estherville; Paul Igo, Danville, Ill. All gave short talks on better feeding to increase production of milk, meat and eggs. Lawrence Brennan, county AAA chairman, also spoke.



Ibberson Rebuilds For Carlton

Kahlbaum Bros., Carlton, Mich., suffered a fire loss and called Ibberson to rebuild, with the result as shown above.

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KANSAS

Liberal, Kan.—The J. H. Salley Co. has installed a new grain separator.

Osborne, Kan.—The Robinson Milling Co. sustained a small loss from recent high winds.

Moundridge, Kan.—The Moundridge Milling Co. had a small electrical damage loss recently.

McCune, Kan.—Gerald Simmons is new manager of the Farmers Elevator, succeeding Paul Mathes.

Independence, Kan.—The Star Mill Co. recently installed a No. 15½-D Kelly Duplex Corn Cutter and Grader.

Waldeck, Kan.—An electrical breakdown at the Cairo Co-operative Equity Exchange elevator recently damaged a 20-h.p. motor.

Eldorado, Kan.—The C. E. Powell Grain Co. has installed the roller bearing fan sheller bought from the Sidney Grain Machry. Co.

Horton, Kan.—W. J. Lowe has built an office and installed a new 25-ton scale with 34 x 10 ft. concrete platform at his elevator.

Wallace, Kan.—The Salina Terminal Elvtr. Co., Inc., and B. K. Smoot reported a small damage to elevator and stock caused by recent high winds.

Canton, Kan.—The Canton Grain Co. has installed a new scale at its south elevator and moved its office north to combine it with the scale office, making one unit.

Michigan Valley, Kan.—W. M. Bulmer has installed a No. 1 Kelly Duplex Vertical Feed Mixer, ½-ton capacity and a No. 15½-D Kelly Duplex Corn Cutter and Grader.

Viola, Kan.—The Continental Grain Co. has completed the construction of a feed warehouse and the installation of mixing and grinding equipment in connection with the grain elevator.

Herington, Kan.—The Continental Grain Co. has just completed the construction of a feed warehouse and the installation of mixing and grinding equipment in connection with the grain elevator.

Cedar Point, Kan.—Arnold Brunner and sons have returned here to take over the mill they owned and operated for a number of years. They have been in the grain and feed business at Florence.

Santanta, Kan.—The Hart-Bartlett-Sturtevant Grain Co. elevator was closed Oct. 27. Forest Brown, who had been managing the business since before harvest, is undecided as to his future business activities.

Walnut, Kan.—H. E. Clark is building an 18x50 ft. addition to the east side of his feed mill, and adding a 12x18 ft. structure to the south side. The latter will be used for an office while the larger addition will be used for hay storage.

Topeka, Kan.—Five itinerant merchant licenses have been issued in compliance with the Itinerant Merchant Law. They are: Jim Thorn, F. C. Wemmer, Harry Cummings and Fay Huntsman, all of Sedan, Kan., and P. J. Williams of Topeka.

Ed Dorado, Kan.—The C. E. Powell Grain, Feed & Coal Co.'s elevator is near completion. Work started on the new structure shortly after the old elevator burned recently. The 25,000-bu. elevator is of wood with iron sheathing; underpinning is of concrete and steel as is also the driveway; the pits are 25 ft. deep, one with a handling capacity of 300 bus. of ear corn, the other of 600 bus. of shelled corn or other grain. All equipment installed is new, each unit operated with separate motors. B. W. Grant is in charge of construction.

Dighton, Kan.—The Farmers Co-operative Elvtr. & Merc. Ass'n has completed its new office building. In celebration of its 25th anniversary the company gave a free picture show at Neeley Theatre Nov. 18, and received guests during the day at the new office. Sam Martin is manager of the business.

Fort Scott, Kan.—J. L. Stout, 67, for 40 years in the grain business here and one of the city's prominent residents, was killed in an automobile accident in California Oct. 24, where he had been on vacation with Mrs. Stout. Mr. Stout operated grain elevators here and at Prescott and carried on an extensive business in all kinds of grain.

Wichita, Kan.—John B. McKay, 48, manager of the Red Star Milling Co., a division of General Mills, died in hospital Nov. 8, following a heart attack he suffered while attending a dinner of the Wichita Traffic Club the evening of Nov. 6. Mr. McKay was manager for the Red Star the past six years and had been with the company for 23 years.

Morganville, Kan.—The office of the Gorden-Mark Elvtr. Co. elevator was broken into by thieves recently and \$136 of which amount \$45 was in checks, taken from the safe. Entry was made by cutting off the lock in a door. The time lock on the safe also was cut out to get into the strong box. A Colt automatic pistol belonging to L. B. Allen, manager of the elevator, also was taken.

Manhattan, Kan.—Ninety-one mills and elevators in 37 counties in Kansas have agreed to pay 2c premium for "certified" and "grade A" wheat of the varieties Turkey, Kanred and Tenmarq. Dr. John H. Parker, director, Kansas Wheat Improvement Ass'n has announced. A similar premium plan was used last year by 60 mills and elevators in the state. While this plan is relatively new in Kansas, it has been followed for 10 years in Indiana. The farmer wishing to get the 2c premium in Kansas for "certified" and "grade A" Turkey, Kanred and Tenmarq wheat must present a certificate signed by A. L. Clapp, sec'y Kansas Crop Improvement Ass'n, or by Dr. Parker. The 2c premium is paid only from Oct. 1 to Dec. 31, after winter wheat planting is completed. It is intended that most of the "certified" and "grade A" wheat of approved varieties shall be sold and used as seed at premiums of 5c to 35c above local market price. The 2c premium per bushel serves as a shock absorber to those farmers who produced "certified" and "grade A" wheat of approved varieties suitable for seed, but who for one reason or another failed to sell all of their wheat at seed prices. The Kansas Wheat Improvement Ass'n co-operating with county agents sponsored the planting of wheat testing plots in four counties this fall; Marion, Comanche, Russell and Norton. In addition Blue Ribbon seed wheat fields have been planted in 15 other counties. Wheat from these fields that measures up to the blue ribbon standard, if not sold as seed wheat by Oct. 1, 1942, will be eligible for the 2c premium.

KENTUCKY

Paintsville, Ky.—Lloyd Cole has taken over the business assets and trademarks of the Great Northern Hay, Feed & Coal Co., whose stockholders recently voted to dissolve that company.

MICHIGAN

Grand Rapids, Mich.—Headquarters of Eelisingh & Lugtigheid, vitamin oil firm, has been moved to 328 Bond St. N. W., where it has double the floor space formerly used.

Holly, Mich.—The Holly Grain Co. elevator was slightly damaged by recent high winds.

Croswell, Mich.—The Michigan Bean Co. has installed a new Steinlite Moisture Tester.

Bellevue, Mich.—The Bellevue Milling Co. has installed a No. 2 Kelly Duplex Vertical Feed Mixer, ton capacity.

Ypsilanti, Mich.—George McCalla, representing the Michigan Elvtr. Exchange, was elected a director of the Michigan State Farm Buro at its recent annual meeting.

Holly, Mich.—Maurice Barber has opened the Holly Feed warehouse, having recently purchased the Holly Feed Store, and has installed new equipment. He was formerly in the feed business at Clawson.

Rothbury, Mich.—The Peter Engman feed store and stock was destroyed in the fire that burned thru the business section here early Nov. 15. A storehouse in the rear of the building containing a large stock of feeds was saved.

Plymouth, Mich.—The Specialty Feed Products Co. is building a two-story cement block addition, 75x30 ft., east of the present buildings. A hammer mill and feed mixing machinery is being installed for custom grinding and mixing. J. J. Wickens is manager and owner.

Burr Oak, Mich.—The Burr Oak Co-op installed considerable new equipment including a drag, boot sheller, large bucket elevator, new style rolling screen cleaner, vertical ton mixer with motor and drive, sheller drive, and several head drives, all machinery and equipment furnished by the Sidney Grain Machry. Co.

MINNESOTA

Hawley, Minn.—The Lake Region Grainmen's Ass'n held its regular meeting here Nov. 18.

Willmar, Minn.—The Central Grainmen's Ass'n will hold its regular meeting here Nov. 28.

Omera (East Grand Forks p.o.), Minn.—Florian Krause has resigned as manager of the Omera Elevator.

Elk River, Minn.—Hugh Mitchell has sold his interest in the mill here to his partner, Mr. Scott, who is now sole owner of the business.

Evan, Minn.—The Evan Grain Co. has installed a new flax cleaner and modernized its office. A display room and warehouse has been added. Jake Jorgensen is manager.

Hector, Minn.—Brookfield Seed Co. has installed a combined sheller and cleaner, furnished by the Sidney Grain Machinery. The machine is complete with cob stacker.

Humboldt, Minn.—The Farmers Mutual Elvtr. Co. obtained a certificate of necessity from the federal government authorizing the expenditure of \$11,000 for grain storage space.

Litchfield, Minn.—The 3,500-bu. corn crib at the Cargill, Inc., elevator has been completed. The structure is 28x40 ft. in size with a steel roof and has a 12 ft. driveway. Harry L. Peterson is manager of the elevator.

Crookston, Minn.—The Crookston Milling Co. is building a feed mill south of its present plant. The T. E. Ibberson Co. has the contract. The structure is of frame with iron sheathing. Completion is scheduled for Jan. 1.

Holdingford, Minn.—William I. Allred, former superintendent of the Great Northern Flour Milling Co. in St. Cloud, from 1913 to 1921, has purchased the Holdingford Mill Co., manufacturers of Ace High flour products. Mr. Allred plans to remodel the Holdingford plant and inaugurate a modern milling setup.

Aiken, Minn.—A new modern feed grinder driven by a 40-h.p. motor has been installed at the Ziske Store. Free demonstration grinding was given Nov. 8 and 10. To accommodate the hammer mill installation a special concrete block basement was constructed. An unloading hopper is being constructed on the outside platform. Bob Caldwell of Brainerd is in charge of the grinding.

STRATTON GRAIN CO.

MILWAUKEE, WIS.

CHICAGO, ILL.

SPRINGFIELD, O.

ST. JOSEPH, MO.

NEW YORK, N. Y.

MILL FEEDS — FEED PRODUCTS — BY-PRODUCTS

Consignments and Future Orders Solicited

Duluth, Minn.—The Duluth-Superior storage additions built or under construction will increase the capacity to its peak of former years. With the new Farmers Union Grain Terminal and the Daisy mill elevator completed and a 50,000-bu. addition still under process the capacity will be raised to 51,600,000 bus. Razing old wooden houses reduced the total capacity to 46,925,000 bus.—F. G. C.

MINNEAPOLIS LETTER

Minneapolis, Minn.—The Kellogg Commission Co. was granted a certificate of necessity authorizing expenditure of \$7,000 for grain storage space.

Spencer Kellogg & Sons, Inc. is changing from hydraulic presses to another extraction process in the production of linsed oil in its Minneapolis plant.—G. E. T.

Minneapolis, Minn.—Archer-Daniels-Midland Co. showed a third quarter profit of \$974,618, more than double the company's profit in the same period last year. The net profit, figured after depreciation and provision of \$1,295,000 for federal income and excess profits taxes, is equal to \$1.78 a share on 544,916 shares of common stock. This compares with a net profit of \$401,736 or 73c a share in September quarter of the preceding year.

Gilbert G. Giebink, executive sec'y of the Minneapolis Grain Commission Merchants Ass'n and associated in law practice with Herbert Horner, has been appointed legal counsel to the National Grain Trade Council and is now in Washington, D. C. to assume his new duties. His office in the Capitol City is 604 Hibbs Building where he will be associated with Ray Bowden, formerly of Minneapolis and now executive sec'y of the National Grain Trade Council.

MISSOURI

Steele, Mo.—The local alfalfa mill with 400 tons of feed stored there, burned recently.

St. Louis, Mo.—Ward Brown, an executive of the Checkerboard Elvtr. Co. and the Purina Mills, recently underwent an operation at St. Luke's hospital.

Fayette, Mo.—Bob Summers escaped serious injury when a pickup truck belonging to the Summers Elvtr. Co., which he was driving, skidded into a ditch two miles north of here recently, and was completely demolished.

Plattsburg, Mo.—The Plattsburg grain elevator has been sold to a wrecking company which will take it down and sell the lumber. The two warerooms will be moved away. The elevator was built about 20 years ago by the Seward Grain Co. and has been operated most of the time since then.

Mercer, Mo.—The Geo. Todd Constr. Co. has a contract to build a 30x80-ft. feed storage for the Alley Grain Co. They will also have a grain handling plant as well as feed mixing and corn cracking bins. The entire building will be ironclad with loading facilities on both sides. Work is expected to start at once.

Fortuna, Mo.—Thieves entered the Farmers Elevator recently, opened the safe, but left without taking the money it contained. They had forced a window to gain entrance to the building, and apparently had worked the safe combination as the lock was not forced, but a strong box containing \$150 was overlooked.—P. J. P.

Jefferson City, Mo.—J. W. Buffington, Mexico Democrat, is in the office of grain and warehouse commissioner until his term expires Apr. 15, 1943, unless he resigns, dies or is formally removed by the governor, the attorney general's office has ruled. The ruling was requested by Gov. Forrest C. Donnell to clarify whether Buffington's term ended when the state grain and warehouse law was repealed and reenacted by the 1941 legislature. He was appointed to the \$4,500 a year job by former Gov. Lloyd C. Stark in 1939.—P. J. P.

Richmond, Mo.—Silas Robert Crispin, 59, formerly associated with the Ray-Carroll County Grain Growers, Inc., and the Seward Elvtr. Co., died at his farm near Redtop, recently, of a heart ailment.—P. J. P.

KANSAS CITY LETTER

J. A. Willis, Jr., vice-president and general manager of the Ismert-Hincke Milling Co., is undergoing treatment at St. Luke's Hospital for a circulatory disorder in his left leg.

Francis N. McKown, Wichita, Kan., has applied for membership in the Kansas City Board of Trade on transfer from T. E. Cunningham, Chicago. The membership sold for \$3,000, transferred. Carl Hirschmann has been elected to membership in the Exchange.

The Kansas City Board of Trade, acting on the request of Sec'y of Agriculture Wickard, modified the limits on daily fluctuations of wheat, corn and oats to 5c per bushel. The limits on wheat had been 10c a bushel, on corn, 8c, and on oats 6c. No change was made in the limit on millfeed futures which is \$1 a ton.

The thirteenth annual National Collegiate grain judging contest, sponsored by the Kansas City Board of Trade and Chamber of Commerce and supervised by C. A. Helm, professor of agriculture of the University of Missouri, was held in the board of trade building Nov. 24 with the following 10 schools competing for various prizes and honors: Texas Tech., Lubbock, Tex.; North Carolina State College, Raleigh, N. C.; Iowa State College, Ames, Ia.; University of Nebraska, Lincoln, Neb.; University of Minnesota, St. Paul; Pennsylvania State College, College Sta., Pa.; Oklahoma A & M, Stillwater, Okla.; Michigan State, East Lansing, Mich.; Texas A & M, College Sta., Tex.; Kansas State College, Manhattan. The contest was concluded with a dinner at the Hotel Phillips at 6 p. m., after which the prizes and honors were awarded.

MONTANA

Harlowton, Mont.—The local plant of the Montana Flour Mills Co. which has been shut down since September, has resumed operations.

Lewiston, Mont.—The 40,000-bu. addition to the Farmers Elvtr. Co., owned by G. L. Friedlein, recently completed, is filled with grain. The annex increased the elevator's storage capacity to 150,000 bus.

Livingston, Mont.—The upper section of the Livingston Milling Co.'s mill was damaged by fire Nov. 7, the loss estimated at \$10,000, covered by insurance. Reconstruction was started immediately. A. J. Hetzel is owner of the company.

NEBRASKA

Du Bois, Neb.—The W. H. Hilt & Co. elevator and stock were destroyed by fire Nov. 18.

Bladen, Neb.—Gerald Banks has succeeded Kermit Clark as second man at the Bladen Grain Co. elevator.

Weeping Water, Neb.—Roy Wade is working at the Farmers Grain & Supply Co., owned and managed by Ed E. Lorensen.

Lanham, Neb.—The Continental Grain Co. of Kansas City recently purchased the grain elevator formerly owned by W. C. Weiters.

Hastings, Neb.—Dale Snow, employed by the Hastings Grain Co., and Miss Betty Lou Berg of Kansas City, Mo., were married Nov. 16.

Shickley, Neb.—A 20x30-ft. addition to the Johnson Feed Mill was completed recently. It provides a storage room, private office and display room.

Murphy, Neb.—The Aurora Elvtr. Co. elevator and a lumber yard are the only buildings remaining in this town after fire swept thru the village Nov. 5.

Keene, Neb.—We purchased several steel bins and made extensive repairs on our buildings for grain storage recently.—Keene Grain, Stock, Lbr. & Coal Co.

Beatrice, Neb.—H. H. Boyd has purchased the old 13,000-bu. elevator in the Union Pacific yards formerly owned by the late John Dobbs. He is having it painted and repaired and may use it for grain storage.

Dodge, Neb.—The Farmers Grain & Lbr. Co. held a feeders' meeting Nov. 13 at 7:30 p.m. at the Dodge Auditorium when Howard Thompson was the speaker. A free lunch of barbecued beef sandwiches and drinks was served all who attended.

Pawnee City, Neb.—The Continental Grain Co. of Kansas City recently purchased the grain elevator formerly owned by Joe Brown. New feed grinding and mixing equipment is being installed. F. J. Lindbloom, formerly of Marysville, Kan., is local manager.

WET GRAIN— HEAVY DISCOUNTS HESS DIRECT HEAT GRAIN DRIERS

Quick Shipment, Prompt Service

HESS WARMING & VENTILATING CO.

1211 SO. WESTERN AVENUE

CHICAGO, ILLINOIS

Hess Dried is Best Dried

Omaha, Neb.—The annual meeting of the Westcentral Grain Co. was held recently at the Fontenelle Hotel. J. E. Wells, Jr., special assistant to the Sec'y of Agriculture, Washington, D. C., was the principal speaker.

Omaha, Neb.—Glenn H. LeDioyt, sec'y of the Nebraska Grain Improvement Ass'n, Lincoln, addressed the noon meeting of the Chamber of Commerce agricultural com'tee recently, his subject, "Improving Grain in Nebraska."

Hasen, Neb.—Kermit Clark, who has been right hand man at the Bladen (Neb.) Grain Co. elevator for the last three years, is new manager of one of the McNeil elevators and will be custodian of the railway company also.

Royal, Neb.—Ernest J. Feyerherm, who had managed the Farmers Union elevator for 16 years, died unexpectedly of a heart attack the morning of Nov. 8. He was riding in a wagon in a corn field on his place near here when stricken.

Omaha, Neb.—R. M. Scoular, local manager of the Scoular Bishop Grain Co., was elected president of the Omaha Grain Exchange Nov. 18. A. McKinley, vice-pres., and general manager of the Omaha Elvtr. Co., was elected first vice-pres.; W. T. Burns, of the Burns Grain Co., was named second vice-pres.; F. C. Bell, of the Bell-Trimble Grain Co., re-elected treas.; Frank P. Manchester, re-elected sec'y of the exchange for his 33rd year in that office.

NEW ENGLAND

Gray, Me.—We have just completed a new retail store that is one of our best looking, inside and out, and nicely located on Brown St.—Webber Grain & Feed Co., Woodford (Portland p. o.), Me.

NEW MEXICO

Portales, N. M.—Overheating of the grain drying equipment at the Worley Bros. Elevator the night of Nov. 6 fired the grain in the top of the drier. Several hundred bushels of grain were lost but very little damage resulted to either the building or the machinery.

NEW YORK

Ogdensburg, N. Y.—The R. H. McEwen Milling Co. has discontinued business.

Oakfield, N. Y.—The plant of George W. Haxton & Sons was badly damaged by fire recently.

Albany, N. Y.—Schupler Warehouse, Inc., has changed its name to Fort Orange Feed Stores, Inc.

Seward, N. Y.—The 80-ft. building and contents of L. M. Watt were destroyed by fire on Nov. 10, caused apparently by a backfire of an internal combustion engine. Mr. Watt announced his intention to rebuild.

Canandaigua, N. Y.—The Co-operative Grange League Federation Exchange, Inc., will set up a feed processing plant here as a part of its \$200,000 expansion program, it has been announced. Originally the co-operative planned a program amounting to \$300,000 for facilities in Buffalo, but since then directors have voted to decentralize operations. A. Leal Bibbins, president of the co-operative G. L. F. Mills, Inc., stated.—G. E. T.

New York, N. Y.—New York Produce Exchange has released the following significant report: "Amend Rule 91, Form of Warehouse Receipt, by amending the paragraph following clause (d) to read as follows: 'The Warehouseman shall not be liable for any loss or injury caused by tornado, earthquake, flood, windstorm, volcanic eruption, or sabotage, bombardment or any other loss or injury of any nature whatsoever caused by, due to, or arising out of any act of any enemy or enemies of the United States, nor, except as herein otherwise provided, for any loss or injury caused by fire and/or lightning.'"

Davenport, N. Y.—The Delhi-Delancey Milling Co., Inc., has been organized, to deal in grain, poultry and animal feeds.

Hornell, N. Y.—Harold A. Johnson Milling Co. has leased the M. F. Smith & Son mill on River St., and installed new equipment.

New York, N. Y.—About Jan. 1, according to present plans recently announced, the business of Winthrop, Mitchell & Co., will be transferred to Whitehouse & Co.

Syracuse, N. Y.—Decentralization of facilities and expansion of co-operative marketing are significant trends in the Co-operative Grange League Exchange, Inc., brought out at the recent annual meeting of the co-operative at which all officers were re-elected for another year. James A. McConnell, general manager, said "The decentralization program which was begun may be one of the most important moves we could make so far as the future is concerned. A weak link in our processing policy has been brought to light by the strike and should the Buffalo or Albany plants be out of commission permanently we need facilities so that service would not be stopped." The co-operative's large feed mill in Buffalo re-opened a few days ago after being strikebound for three months.—G.E.T.

BUFFALO LETTER

Buffalo, N. Y.—William M. Bjerke has been appointed assistant manager of the local plant of the Russell-Miller Milling Co. He formerly was head of the shipping department.

Buffalo, N. Y.—Spencer Kellogg & Sons, Inc., net profit for the year ended Aug. 30 was \$1,861,865, equal to \$3.66 a share, the highest in 10 years. It compared with \$1,395,280, or \$2.74 a share the preceding year. Federal income and excess taxes for the year were \$902,495 against \$309,785 for the preceding year.—G.E.T.

Buffalo, N. Y.—Work on the \$800,000 storage addition to the G. L. F. elevator is practically completed and the elevator was receiving 208,000 bus. of grain Nov. 15 from the steamer Amazon. It was the first vessel cargo to be unloaded into it in more than five months, vessel unloading having been impossible because the tie-rods on the dock had been removed when work on the addition was begun. Rail shipments had kept the 750,000-bu. elevator well filled.—G. E. T.

Buffalo, N. Y.—Plunging into a 15-ft. concrete pit of the Standard Milling Co.'s new grain elevator during an inspection trip the morning of Nov. 22, Leon R. LaVigne, elevator superintendent, was seriously injured. At General Hospital it was found he suffered a punctured lung and he was placed at once in an oxygen tent. Mr. LaVigne and John P. Gerard, local manager of the Standard Elvtr. & Grain Division of the company, were making an inspection tour of the new 2,000,000-bu. elevator addition on the Buffalo River. Mr. Gerard said they were walking along when suddenly Mr. LaVigne fell into a hole which neither had seen, and that he almost went in after him. It was necessary to put ladders down into the pit and a rope around the injured man to pull him out. He was unconscious and had lost a good deal of blood.—G.E.T.

NORTH DAKOTA

Langdon, N. D.—Alvin M. Tolen, 54, former grain dealer here, died Nov. 10 in Minneapolis.

Crosby, N. D.—The 26,000-bu. addition to the Farmers Union Elevator has been completed and was opened recently. Mr. Nordstog is manager of the elevator.

Hebron, N. D.—Hebron Farmers Union Elvtr. Co.'s new elevator was placed in operation recently and on opening day 33,000 bus. of wheat were taken in. Two days later the storage space was filled to capacity.

Grain Shipping Books

Railroad Claim Blanks duplicating, three different books, five forms, 8½x11 in., \$2 each book, plus postage.

Shipping Notices duplicating, 50 originals of bond paper, 50 duplicates, press board cover, 5½x8½ inches, weight 8 ozs.; 2 sheets of carbon. Price 70 cts. plus postage.

Shippers' Certificate of Weight duplicating, 75 originals of bond paper, 75 duplicates. Press board hinged back covers, three sheets of carbon, 4½x9¾ inches, weight 11 ozs. Price 95 cts., plus postage.

Grain Shipping Ledger for keeping a complete record of 4,000 carloads. Facing pages are given to each firm to whom you ship and account is indexed. Book contains 80 double pages of ledger paper with 16-page index, size 10½x15¾ inches, well bound with black cloth covers and keratol back and corners. Weight, 4 lbs. Order Form 24. Price, \$3.50, plus postage.

Shippers Record Book is designed to save labor in handling grain shipping accounts and provides for a complete record of each car shipped. Its 80 double pages of ledger paper, size 9¼x12 inches, provide spaces for 2,320 carloads. Wide columns provide for the complete record of all important facts of each shipment. Bound in heavy black cloth with keratol back and corners. Shipping weight, 2½ lbs. Order Form 20. Price \$2.50, plus postage.

Sales, Shipments and Returns. Is designed to save time and prevent errors. The pages are used double; left hand pages are ruled for information regarding "Sales" and "Shipments"; right hand page for "Returns." Column headings provide spaces for complete records of each transaction on one line. Book contains 80 double pages of ledger paper, size 10¾x16 inches, with 8-page index. Spaces for recording 2,200 carloads. Bound in heavy gray canvas with keratol corners. Weight, 3¾ lbs. Order Form 14AA. Price \$3.35, plus postage.

Record of Cars Shipped facilitates keeping a complete record of cars of grain shipped from any station, or to any firm. It has column headings for Date Sold, Date Shipped, Car Number, Initials, To Whom Sold, Destination, Grain, Grade Sold. Their Inspection, Discount, Amount Freight, Our Weight Bushels, Destination Bushels, Over, Short, Price, Amount Freight, Other Charges, Remarks. Book contains 80 double pages of ledger paper, size 9½x12 inches, with spaces for recording 2,320 carloads. Well bound in heavy black pebble cloth with red keratol back and corners. Shipping weight, 2½ lbs. Order Form 385. Price \$2.50, plus postage.

Grain & Feed Journals CONSOLIDATED

327 South La Salle St., Chicago, Ill.

OHIO

Radnor, O.—The Delaware Farmers has installed an Ajax Hammer Mill with drive.

Belle Center, O.—The Belle Center Hay & Grain recently purchased a new style Sidney Rolling Screen Cleaner.

Groveport, O.—North Bros. recently installed a No. 15½-B Kelly Duplex Corn Cutter and Grader with motor drive.

Pleasant Hill, O.—The Farmers Exchange Co. suffered a small loss recently when high winds damaged its elevator.

Bookwalter (Jeffersonville p.o.), O.—The Sedalia Grain & Lumber Co. sustained a small loss recently, from high winds.

Napoleon, O.—The Saunders Alfalfa Mill was badly damaged by fire which originated in the drier the night of Nov. 1, and spread quickly to other parts of the plant including the warehouse.

Versailles, O.—The Versailles Feed Mill, formerly the Versailles Milling Grain Exchange, opened under the new management of Clarence Pierron Nov. 1. The mill now is under lease by C. D. Steele of Van Wert, O., who operates two other feed mills.

Ft. Recovery, O.—The Ft. Recovery Equity Exchange Co.'s new elevator was formally dedicated at a public program held on Oct. 20, designated as Equity Union Day. A large crowd was present when Floyd Freemyer, general manager, called the meeting to order. Leroy Melton, national Equity Union president, was the principal speaker of the day.

Selma, O.—Charles M. Kissell of South Charleston, of the local C. M. Kissell & Co., claiming \$35,000 for lands taken in a state highway department improvement of Route 42 has been awarded a jury verdict for \$14,000 in the Clark County common pleas court. Mr. Kissell asked for the money in compensation for loss of a grain elevator business he had here.

Spencer, O.—The Spencer Elvtr., Inc., has been organized to purchase the assets of the bankrupt Spencer Equity Co. Purchase price has been fixed at \$31,000 which sum, it is estimated, will provide about 50c on the dollar to the creditors of the Equity company. Incorporators are: Gerals S. Rice, Ora Arndt, of Sullivan; John Firestone and Asa Firestone of Spencer.

Findlay, O.—The old McManness Mill & Grain Co. building is being razed. The frame building, storage tank and machinery have been purchased by the Liberty Grain Co. of Rudolph and will be moved there, to replace the company's elevator that burned recently. Because of the difficulty of getting materials to rebuild the elevator, the company purchased the McManness buildings.

McGuffey, O.—E. E. McConnell of Ada, owner of the McGuffey Elevator which burned the night of Nov. 1, stated he will start rebuilding immediately if he is able to obtain materials and necessary machinery for setting up the new plant. The elevator had a capacity of 40,000 bus. of grain and contained about 12,000 bus. at the time of the fire. It had been operated by Mr. McConnell for the last nine years, who also has elevators at Alger and Blanchard Station. He estimated his loss between \$40,000 and \$50,000, covered by insurance. Cause of the fire was undetermined.

New Bremen, O.—A. H. Poppe has purchased the business, stock and contracts of the Bremco Mills from the New Bremen Broom Co., who has been operating it as a subsidiary of that company. The business will continue under the old name. Bremco Mills manufactures sun-cured alfalfa meal; it was started a few years ago by Mr. Dickman, general manager of the New Bremen Broom Co., and Mr. Poppe who has managed the business. Office of the new company will be at 226 N. Herman St.; the mill and warehouse are located on North Jefferson St.

OKLAHOMA

Oklahoma City, Okla.—The Hardeman-King Co. had an electrical damage loss recently.

El Reno, Okla.—The Williams Gin & Feed Mills, formerly the Cattleman's Feed Co., has had its charter amended; capital stock, \$10,000.

Woodward, Okla.—The L. S. Fisher Const. Co., Inc., was issued a certificate of necessity by the federal government authorizing expenditure of \$59,000 for handling and storage of grain.

Forgan, Okla.—The Feuquay Grain Co. has moved to a new location. A new Fairbanks Scale was installed at the site, replacing a smaller one. The company is leasing the elevator from which it moved for storage space.

Enid, Okla.—The claim of Alfred W. Schuermann for compensation for injuries sustained while in employ of the Hacker Mill & Elvtr. Co. was denied by the Supreme Court because the claim was not filed within one year after the injury.

Enid, Okla.—Officers and directors of the Union Equity Co-operative Exchange recently held an informal business meeting here when an inspection tour was made of Union Equity properties which have been expanded to handle a total of 6,500,000 bus. of wheat.

Ada, Okla.—R. W. Allen, 78, who established the town's first industry, the Ada Milling Co., in 1901, died Nov. 10. Mr. Allen, after disposing of the Ada Milling Co., several years later established the Allen Feed Mills and continued in active management until failing health forced his retirement a year ago.

Duke, Okla.—The local elevator of the Adair-Morton Grain Co., Wichita, Kan., was destroyed by fire recently. The elevator is of 85,000 bu. capacity, but steel tanks with 50,000-bu. capacity are included in the total amount and with their contents, sustained little or no damage in the fire. The remainder of the elevator, wood and iron clad construction, however, was a total loss along with 35,000 bus. of wheat stored there. The elevator will be rebuilt at once.

PACIFIC NORTHWEST

Portland, Ore.—George A. Mangus will construct a \$12,000 warehouse at 521 N. Tillamook for the Triangle Milling Co.—F. K. H.

Portland, Ore.—J. & H. Grain & Feed Co. has taken a lease on the warehouse on the southeast corner of S. E. Water Ave.—F. K. H.

Genesee, Ida.—Burglars forced an entrance to the Nicholson Grain Co. warehouse Oct. 27 and took several bags of flour and chicken mash.

Enumclaw, Wash.—Harvey Shaffer, manager of the Enumclaw Feed Co., was elected treasurer of the Kiwanis Club at the recent annual meeting.

Rosalia, Wash.—Earl Wood of the Wood Warehouse Co. has moved his business to quarters occupied by the Harbour Grain Co. which was taken over recently by the Wood interests. Mr. Wood has remodeled the office into modern, comfortable quarters.

WHY. TAKE CHANCES

on the Cost of Drying Grain

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Complete Tables

showing the exact cost of drying different grains.

Callahan & Sons, Inc.

Louisville, Ky.

Spokane, Wash.—Spokane Grain Merchants have re-elected as officers for 1942 W. A. Mitchell, pres.; L. A. Rumburg, vice-pres.; Karl E. Bumgarner, sec'y; directors, R. L. Lindstrom and J. F. Chamberlain.

Blackfoot, Ida.—The DeKay Fuel & Ice Co. is building a 48x39-ft. addition to its plant that will house machinery for grinding and mixing livestock and poultry feeds, F. G. DeKay, manager, announced. When completed custom feed grinding and mixing will be a specialty.

Relief (Starbuck p. o.), Washington.—The Columbia County Grain Growers, Inc., let the contract for construction of its 150,000-bu elevator to the Hogenson Const. Co. for \$37,784. The new building will give the company a total storage capacity of 1,500,000 bus.—F. K. H.

Lynden, Wash.—A mass meeting of Whatcom County farmers interested in the proposed establishment of a flax fiber industry was held here recently. Com'ites appointed to look into the possibilities of building a processing plant made their reports and other details of the plan were discussed.

Lexington, Ore.—D. S. Glasgow, manager of the Morrow County Grain Growers' warehouse, advised that the structure collapsed early Nov. 10. Part of the building fell on the railroad tracks and thousands of tons of grain were buried beneath the debris. Warehouse is a complete loss. He attributed the collapse to overloading.—F. K. H.

Spokane, Wash.—The Aslin-Finch Feed & Grain Co. warehouse and stock was damaged by fire early Nov. 15. Grain stored on the first floor of the two-story concrete building was extensively damaged by fire and water. Little or no damage was done to storage on the second floor. The fire is believed to have started in grain and feed stored in the rear of the building.

Whitstran (Prosser p. o.), Wash.—The S. E. Sampson mill burned recently, the loss estimated at \$12,000, with partial insurance. In addition to equipment the mill contained 30 tons of cut hay, three tons of meal and several tons of grain. Cause of the fire is undetermined. Firemen prevented spread of the flames to a wheat storage warehouse and other near by buildings. Mr. Sampson stated he did not know whether he would rebuild at this time.

Corvallis, Ore.—Weevil and slug control were subjects discussed at length at a meeting of executives of farm organizations, college officials, entomologists, AAA and Seed Com'ite of Oregon Feed & Seed Ass'n Nov. 8 at Oregon State College. Officials of the state department of agriculture stated that present laws do not permit of forced fumigation for vetch weevil until the weevil are actually found. Representing the Oregon Feed & Seed Ass'n at the conference were Howard Hadley, chairman of the Seed Com'ite; George Burlingham, and Leon S. Jackson, manager.

PENNSYLVANIA

Bloomsburg, Pa.—The G. L. F. will expand its facilities here as a part of its \$200,000 expansion program, it has been announced.—G. E. T.

Connellsville, Pa.—Eldras E. Henderson, 63, for 30 years owner and operator of a flour and feed mill here, died Nov. 5 after a long illness. He had retired from active business three years ago.

Waterloo, Pa.—The Co-operative Grange League Federation Exchange, Inc., plans expansion of its facilities here as a part of its recently announced \$200,000 expansion program.—G. E. T.

Philadelphia, Pa.—Sam King, 54, of King Bros. & Co., millfeed merchandisers, died of a heart attack suffered in his office Nov. 8. Mr. King and his brother formerly were in the employ of M. F. Baringer & Co., feed firm, and when Mr. Baringer retired they succeeded to the business.

SOUTH DAKOTA

Turton, S. D.—Howard Gelling, manager of the local Farmers elevator, has resigned to accept a similar position at St. Peter, Minn.

Burke, S. D.—John Smizer, manager of the Updike Elevator, fell from the back of a truck at the elevator Nov. 7, fracturing several ribs.

Brookings, S. D.—Miss Vera Delaney, who has been employed by George P. Sexauer & Son, and Lieut. William A. Stenson, Colome, S. D., were married Nov. 7.

Cresbard, S. D.—The Cresbard Grain Co. now operate together with their own the elevator formerly owned by the Eagle Roller Mill Co., having purchased the business some time ago following the abandonment of the M. St. L. Railroad.

Tripp, S. D.—The Farmers Elevator's new fed mill has been put into operation. The building containing the new feed grinding and mixing equipment has been under construction for several weeks, delay being occasioned in getting some of the material and machinery. Custom grinding and mixing is being specialized in.

Sioux Falls, S. D.—The Thirty-fifth annual convention of the Farmers Elevator Ass'n of South Dakota will be held here, commencing Tuesday, Dec. 9th. The convention, with headquarters in the Cataract Hotel is expected to draw over 600 farmers and elevator operators from all parts of the state. Delegates will enjoy a varied program of speeches, entertainment, and dancing, during the course of the convention which will adjourn Dec. 11th. Among prominent speakers who will address the grain dealers will be Governor Harlan J. Bushfield, who will address the group Wednesday afternoon, Dec. 10th. Other speakers include E. J. Grimes, President of the Minneapolis Chamber of Commerce; Jas. A. Cole, Regional Director of the Commodity Credit Corporation; Tom G. Dyer, (Des Moines), H. O. Putnam, Northwest Crop Improvement Ass'n.; Geo. I. Gilbertson, South Dakota State College. The meetings, to be held in the Cataract Hotel Ballroom, are open to the public.

SOUTHEAST

Laurel, Del.—Delmar Feed Mills has been incorporated by James M. Tunnell, Jr., Howard W. Hudson and Claire A. Hudson.

Atlanta, Ga.—The Standard Milling Co. has completed construction of its scratch feed mill and the plant is in operation. It replaces the one that burned last year.

Clarksdale, Miss.—Plans are being made for the location of a \$250,000 grain elevator and bonded storage warehouse, the elevator to have a storage capacity of 750,000 bus., 10 storage bins 100 ft. high and 15 ft. in diameter. It was pointed out such an elevator and warehouse in North Mississippi would give aid in the defense program.—J. H. G.

Marks, Miss.—Delta Grain & Seed Ass'n recently purchased a strip of land 300 x 50 ft. along the railroad right of way to provide space to build a large structure to house its cleaning plant. The new building will be 190 ft. in length, of sheet iron construction with concrete floor. Several new machines will be installed. A spur track will be built to serve the plant.

TENNESSEE

Covington, Tenn.—Harvey Hendrick, 43, former proprietor of a grain business here, and a world war veteran, died recently. At one time he was a player with the New York Yankees, Brooklyn Dodgers and other big league ball teams.

Chattanooga, Tenn.—Tom Ragland, president of the Mountain City Mill Co., has announced that his company has awarded a contract to Jones, Hettelsater Co., for construction of a 500,000-bu. capacity grain elevator, to be built of reinforced concrete 50 by 150 ft.—J.H.G.

TEXAS

Levelland, Tex.—The Sun-Ray Feed Store is remodeling its building. Guy Lowry is manager and owner of the business.

Pasadena, Tex.—The Wright Grain Co., Inc., has been organized; incorporators, Morris J. Wright, Sr., Jewel Wright, Ralph D. Coppock.

Seguin, Tex.—Fire razed the large corn sheller building of the Seguin Milling Co. recently, entailing a loss estimated by Ben Schmitt, a company official, at approximately \$10,000. With the building and equipment about 2,000 bus. of corn burned. The loss is partially covered by insurance.

Ft. Worth, Tex.—Harry Taylor, formerly of Salina, Kan., but more recently of Sherman, Tex., has been appointed general superintendent of the Burrus Mill & Elevator Co., succeeding P. K. Fisher. Mr. Taylor formerly was with the G. B. R. Smith Mill at Sherman before that plant was purchased by the Quaker Oats Co.

WISCONSIN

Theresa, Wis. — Plans have been approved by the state for a new feed mill and elevator here to be erected by the Theresa Farmers Co-operative.—H. C. B.

Milwaukee, Wis.—The estate of Philip C. Kamm, who died at the age of 86, is worth \$86,831, according to an inventory filed Nov. 13 with the county court.—H. C. B.

Burlington, Wis.—Leo J. Warren, vice-pres. and assistant general sales manager of the Murphy Products Co., was married Nov. 5 in Milwaukee to Miss Helen V. Schinner.—H.C.B.

Cambridge, Wis.—The old stone grist mill built in 1847 by the Keys brothers of Madison, is being remodeled and modernized by the owner, A. D. Prescott, and soon is expected to be grinding again.

Watertown, Wis. — August C. Jaeger, 82, celebrated his 60th anniversary in the milling business Nov. 14. He is president of the Jaeger Milling Co.; a son, Alex T., is vice-pres. and another son, Herbert E. is sec'y-treas.—H.C.B.

WYOMING

Cheyenne, Wyo. — The Cheyenne Mill & Elevator Co. elevator was broken into the night of Nov. 16, but nothing was stolen.

Worland, Wyo.—The Chief Feed Co.'s new elevator and steam roller plant is in operation. The elevator has 11 bins with a storage capacity of 9,000 bus. of grain, with several bins for use of customers for storing grain that is to be rolled as needed. All elevator machinery is electrically operated. The roller mill has a capacity of 5 tons per hour, dry or steam rolled. The floor space of the entire plant contains more than 7,500 sq. ft.; the elevator is 24x24 ft.; the warehouse has two floors, each 34x60 ft., and the brick warehouse and office is 34x84 ft. Elevator equipment was furnished by Strong Scott Mfg. Co.; plans and supervision of construction was by the Victor Const. Co., with J. E. Carneal the local contractor. John Dawson is manager of the plant. Willard McNutt operates the steam roller mill.

Payment of the duty on another 200,000 bus. of Canadian rye held in bond at Buffalo recently focused attention of the grain trade on failure of the federal government to check imports of this grain, at prices lower than offerings of domestic rye, as has been done in the case of wheat.

If nails are staggered when nailing loose iron siding, they are less likely to split the boards under them than when they are placed in a straight line that tends to follow the natural grain of the wood. Staggered nailing leaves the nails more firmly anchored, and offers better protection to the iron-cladding from playful antics of the wind.

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411-5 contains 60 sets Form A, 10 Form B, 10 Form C, 10 Form D and 10 Form E.

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Patents Granted

The U. S. Patent Office has published the following patents for mechanical devices applicable to use in grain, feed, and seed elevators:

No. 2,253,087. Joseph A. F. Neal, Buffalo, N. Y. A hammer mill comprising a casing with an inlet for the materials to be ground, a main drive shaft, a plurality of hammer arms with a hammer mounted on the end of each arm, and a grinding plate. The hammers are perforated metal discs, which continually expose fresh jagged cutting edges as they wear. The grinding plate is a plurality of arcuate plates with closely spaced perforations. The plates have their edges facing the main drive shaft, and are adjustable in relation thereto. Similar to the hammers, the plates are perforated so that as they wear, fresh jagged cutting edges are exposed to materials being ground.

No. 2,254,576. John A. Meals, Medford, Ore. An oscillating chaff raiser consisting of a frame and a pair of screens. The top screen is stationary, the bottom one reciprocated lengthwise. An adjustable, pivoted air deflector directs the blast from a fan thru the lower screen. The reciprocating motion of the lower screen causes irregular spurts and surges of air to pass between the screens.

No. 2,254,345. Vincent H. Ballmann, St. Louis, Mo. A seed and grain separator and cleaner composed of a frame with front and rear portions, oscillating upper and lower shaker beds carrying screens with opposite inclines, and a fan mounted over the lower end of the base apron under the screens.

No. 2,253,004. August P. Winter, St. Vital, Manitoba, Can. A scale dump consisting of a receiving platform supported on scale levers over a receiving pit and an excavation. A fluid operated piston is supported beneath the platform, and has a recessed support on its rising end to engage the front wheels or runners of farm vehicles and effect the dumping operation. The effective platform surface is retained in all raised positions of the support.

No. 2,245,650. Ovie N. Christopherson, Minneapolis, Minn. A grain separator consisting of a separating screen subjected to reciprocating and transverse movements to shake materials over elongated slots in the screen parallel to the reciprocating movement.

No. 2,241,805. Robert H. Butters, Atlanta, Ga. A magnetic device for separating vagrant fragments and metal objects from a continuously flowing stream of non-magnetic granular or fibrous material. The device is set at a predetermined angle to provide a path for the gravity flow of materials. It uses two sets of permanent magnets and magnetized bars to insure attraction of tramp metal.

No. 2,252,033. Arnold Redler, Stroud, Eng., assignor to Redler Conveyor Co., Quincy, Mass. A conveyor consisting of a conduit for the working run, and a second conduit for the return run, of open flights drawn thru these conduits in endless chain fashion. The flights are arranged to fold down to prevent rubbing the sides of the conduit on the idle run.

No. 2,242,113. Ralph Cover, Westminster, Md. A corn debutting machine, fitted with spaced aligning devices for carrying ears of corn into the proper position for mechanically and automatically operated grips and knives to effect the debutting operation.

No. 2,252,312. August P. Winter, St. Vital, Manitoba, Can. A compressed air operated key for stopping the piston of a pneumatic truck lift in pre-determined positions, thus preventing the piston from rising too high when so desired and making the lift suitable for use with either long trucks or short wagons by simple operation of the key.

No. 2,245,519. Joseph E. Bailey, Minneapolis, Minn., assignor to Cargill, Inc., Minneapolis, Minn. An automatic sampling device for operation in combination with the discharge throat of an elevator leg. The device is a tubular member supported in the leg throat and possessed of a plurality of openings to receive samples of the grain passing thru the throat. A cover alternately opens and closes the sampling openings and releases collected samples into a drawoff tube.

No. 2,252,460. Alfred De Los Sinden, Aurora, Ill., assignor to Redler Conveyor Co., Quincy, Mass. A conveyor consisting of a casing enclosing an endless conveying element with a plurality of extended flight members of solid construction, which carry flowable materials thru the casing, between inlet and outlet openings. Around curves, the casing is expanded to allow for free passage of the flights.

At the annual meeting of the Flax Institute of the United States, held at Minneapolis Nov. 21, friends of this oil seed were cheered by the announcement that improved varieties of seed were available, particularly Biwing, an offspring of Bison and Redwing, so that by the 1943 season as much as 80,000 bus. of Biwing may be sown. It has a good oil content and exceptional resistance to wilt.

The Fire Insurance Policy Holder's Responsibility

By CHARLES CARROLL

In Pacific Northwest Grain Dealers' Bulletin.

An insurance authority in preparing a textbook for insurance men recently called the insurance contract "the unread best seller." It is the most widely sold printed document in the United States, and for the most part is unread. Confidence in the agent and companies which handle the insurance apparently gives the insurance buyer a feeling of safety through the mere possession of the policy. This would be a fortunate situation were it not for the fact that an insurance policy imposes obligations both on the insurance company and the policy holder.

The responsibility of the insured to meet certain requirements under a fire insurance policy is particularly severe where a reporting form of contract is used to cover STOCK. Insurance companies developed this form in order that the insured might always have full protection for increasing values and at the same time only pay for insurance that is actually used. The increased obligation assumed by the insured under a reporting form of policy is principally through the provisions relating to the making of proper reports, both as to the value of STOCK on hand and the date on which the report must be made to the company.

All insurance policies must set forth clearly the limits for which the company will be liable at each of the locations where STOCK must be stored. It is extremely important that the limits as set forth in the policy be sufficient to cover all values which may accrue during the policy year, as insurance companies naturally do not pay for more than the amount insured under the policy.

Where the value of grain stocks increases either through storing a larger amount than was anticipated, or where there is a price increase, an insured should never hesitate to request the insurance company to increase the limits a sufficient amount to be certain that 100% protection is secured.

Promptness in making reports to the insurance company is likewise extremely important. Responsibility for reporting full values rests entirely upon the insured; and failure to do so limits the possibility of collection in the direct proportion to which the amount reported bears to the value actually existing on the date the report covered.

Burdensome interest, bad debts, and speculative losses are classed among the leaders in causes of elevator failures.

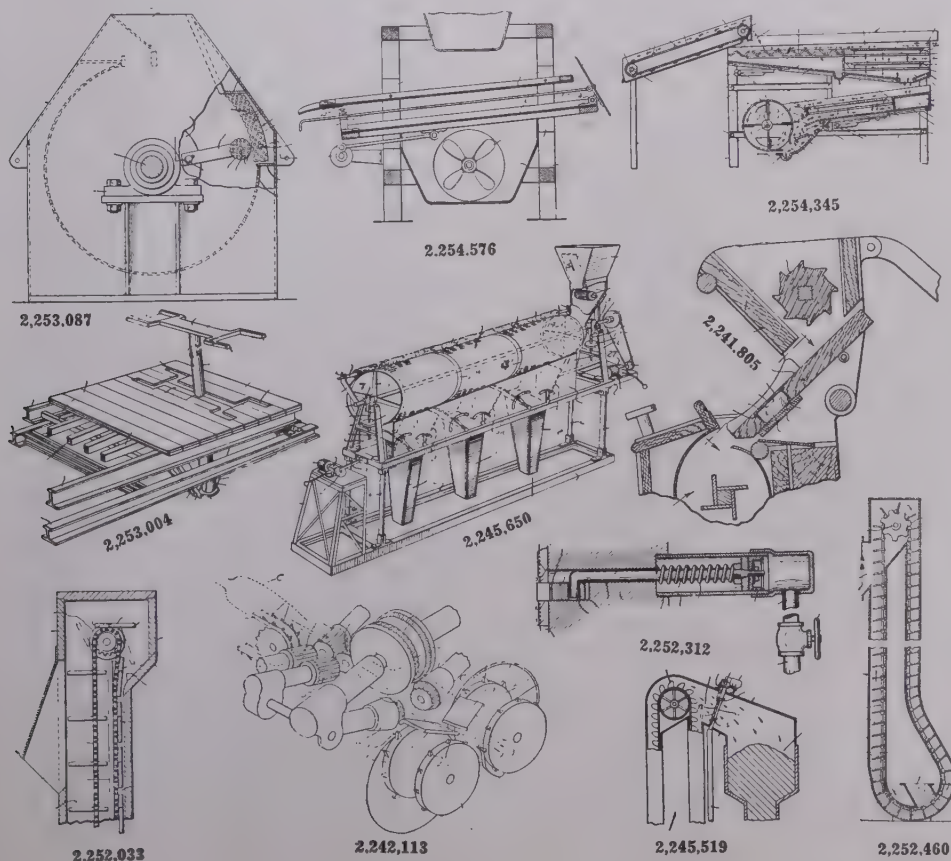
Food for Bugs

America's Food for Defense project is rapidly turning into Food for Bugs.

Statistically the U. S. has one of the largest productions of all grains in history but has less actual human food this year than statistics show. Daily reports of spoiled grain, wet grain, sprouted, bleached, damaged wheat, insect infested bins and such have become so common that no one can comprehend the tremendous quantities of our so-called food reserves that are daily becoming unfit for human consumption.

Insect infestation has shown tremendous increases, heavy rains have continued on unthreshed grain, storage space is at a premium, and large quantities of all types of grain are temporarily held in unsatisfactory containers, all of which are daily cutting down the statistical position which in no way reflects the true situation.

The loss suffered may not be as great in volume as some anticipate, but the loss in quality will be heavy. Our large crop of 961 million bushels of wheat may not seem so large when we consider the amount that has been spoiled by rain and the many small lots that are being destroyed by insects in the farmer's bins. The total crop in figures and the amount suitable for human food are quite different. We should look at facts as well as figures.—Cargill Crop Bulletin.



Field Seeds

Grand Island, Neb.—The Nebraska Seed Co. of Omaha, has opened a branch here under the management of T. R. Mangelsdorf, from Omaha.

Columbia, Mo.—The annual registered seed show of the Missouri Corn Growers Ass'n will be held Dec. 10 at the College of Agriculture.

David City, Neb.—John Eberly, proprietor of the Central Seed Co. will raze an old building and erect a brick warehouse on a site he has purchased.

Columbia, Mo.—Samuel M. Jordan died Nov. 16 aged 80 years. He pioneered in developing agriculture extension work and was known as the "Missouri Corn Man."

Chickasha, Okla.—The Alfalfa Seed Co. of Frederick and the Chickasha Seed Growers Co. have been succeeded by the Oklahoma Improved Seed Co., J. F. Hickey, pres.

Springfield, Ill.—Suit has been filed in the circuit court on behalf of 465 seed dealers asking a refund of \$29,634.10 taxes paid as retailers occupational tax.

Louisville, Ky.—The Chambers Seed Co. has bought 10 connecting buildings in Story street, with 100,000 square feet of floor space, to be used as a public storage warehouse.

Philadelphia, Pa.—C. Fred Schermerhorn, treasurer of the Michell Seed Co., died Nov. 4 of a heart attack while in a doctor's office. He had been with the company 36 years, and was 64 years of age.

Denver, Colo.—The Mountain Peat Co. has agreed with the Federal Trade Commission to cease using the words "peat moss" as descriptive of its product, or in any way implying that its product is moss peat.

Salem, Ore.—Linn County's first perennial grass seed pool has resulted in 17,040 pounds of seed being collected and distributed locally this season, according to County Agent F. C. Mullen.—F. K. H.

Lincoln, Neb.—University of Nebraska agronomists warn farmers not to buy seed of Erban oats from peddlers. It was developed in Canada, is an extremely late maturing crop, say the agronomists, and will not grow in Nebraska.

Ames, Ia.—The expanded seed testing service of Iowa State College now is oc-

cupying attention of 30 part-time analysts and six supervisors, and using 5,000 ft. of floor space, under direction of Professor R. H. Porter.

Odessa, Wash.—Several fields of crested wheat grass were harvested this season, producing seed for local use, most of which has hitherto been imported. It required three years for the crested wheat to get a sufficient stand to pay for harvesting.—F. K. H.

Yankton, S. D.—Gurney's, Inc., newly formed, has purchased the interest of Nancy Gurney in the House of Gurney, Inc., recently sold in bankruptcy. The officers of the new corporation are Charles Gurney, pres.; George Gurney, vice-pres.; Agnes Madsen, sec'y, and the directors, in addition to the officers, Nancy Gurney, Burke Schriver and Russell L. Rulon.

Washington, D. C.—Production of lespe-deza seed this year may exceed that of any past year. The crop is estimated at 201,741,000 pounds of country-run seed, compared with 136,710,000 pounds in 1940 and 71,975,000 pounds, the 10-year (1930-39) average. Larger crops are forecast in all producing states except Virginia.—U. S. D. A.

Portland, Ore.—Union County has jumped its Austrian seedpea acreage from 2,900 in the current year to 16,000 for next year. At the government pegged price of 5c per pound and the proven adaptability of Union County soil and climate in heavy production of this crop, the Grand Ronde Valley should cash in with outstanding success.—F. K. H.

Less mixed wheat is grown in Canada. Samples representing 18,000 fields of wheat were collected and sown for testing in 1941. Of these 13,420 samples survived the hazards of the season, and were actually examined and classified by professional plant breeders or cerealists. 11.2 per cent of the total samples tested were found to consist of mixtures of varieties, compared with 14.6 per cent of mixtures last year, and 33.7 per cent in 1931.—Searle Grain Co.

Minneapolis, Minn.—Establishment of a national prize for the best wheat grown in the United States has been announced, the prize to be given by Philip W. Pillsbury, milling executive. It will consist of a huge urn-like trophy capable of holding the wheat exhibited, payment of \$50 for the winning sample, and expenses covering a trip to Chicago to receive the award on Dec. 5. The wheat will be selected at the International Grain & Hay Show, which opens in Chicago Nov. 29.

Soaking Buffalo Grass Seed for Germination

By L. E. WENGER of Kansas Experiment Station

Soaking buffalo grass seed in water from 2 to 4 days followed by immediate and thoro drying appeared practical as a preseeding treatment in overcoming delayed germination and dormancy. In general, the older the seed and the longer it has been weathered, the shorter should be the soaking period. Two-year-old seed so treated gave an average field germination of 33 per cent under adverse conditions and untreated seed 14.2 per cent, while under optimum conditions the respective treatments gave average field germinations of 43.6 and 7 per cent.

In laboratory tests by A. F. Musil the same seed from 2-, 3-, and 4-day treatments gave an average bur germination of 59.5 and 80 per

cent by the water and potassium nitrate treatments, respectively, and untreated seed 8.6 and 33 per cent. On a caryopsis basis germination averaged 37.6 and 51.4 per cent as compared to 3.5 and 15.7 per cent for untreated seed.

Emergence of treated seed was decidedly more prompt and uniform; in most cases, quick uniform germination appeared decidedly advantageous in establishing stands. Prechilling seed dry, treated or untreated, for 6 weeks at 5° C. gave a significant increase in germination. An earlier test determined that soaked buffalo grass seed would retain viability very well for at least 2 years after soaking.

Seed Dealers Help Against Weeds

By C. H. SCHRADER, extension weed specialist at Minnesota University Farm

Seed dealers are the first line of defense against unsuited crop varieties and noxious weeds. A large proportion of crop and weed troubles can be headed off at their source, the seeds that are planted. By keeping in close touch with pure seed laws and with the recommendations of experts as to adaptability, seed men can render a real service to farmers of their own communities.

Important provisions of existing state seed laws have been added to the statutes this year.

The general seed law requires all seed exposed for sale to be labeled, showing germination, percentage of weed seeds, county and state in which grown, and name and address of

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seller. Farmers selling seed must meet this requirement as well as dealers.

Screenings of any name and nature must be ground fine to destroy weed seeds before they can be sold to a farmer or feeder of livestock.

A new seed-tag sales act requires that all agricultural seed sold at retail in Minnesota, except wheat, oats, barley, buckwheat and speltz, have attached an official tag purchased from the State Department of Agriculture, Dairy and Food.

Hybrid seed corn sold in Minnesota must not only be labeled in accordance with the general seed law, but the label must also show whether it is a single, double or triple cross and what zone in Minnesota it is adapted to.

Treating Newly Discovered Smut of Barley

In 1932, Doctor V. F. Tapke detected a slight difference in color of smutted barley heads. Some were darker brown than others, and he found that the lighter brown infection was caused by the old, floral-infecting species that required hot-water treatment, and that the darker brown smut was another species which attacked the young seedlings and could be controlled by treating the seed with inexpensive surface disinfectants.

Because the difference in color of smutted heads which Tapke noticed was too slight to serve as a dependable index, and because growing a test crop from artificially inoculated seed took too much time, he perfected the method of germinating smut spores by which a plant pathologist can identify positively the two different species, or mixtures of them. The test takes only 6 to 8 hours.

The loose smuts cause annual barley losses in the United States of about 2,000,000 bus. Half of this damage, by spores of the new smut fungus, can be avoided by proper seed treatment, if the new type smut is distinguished from the old.

Many Seed-Treating Centers in Iowa

By J. H. STANDEN, extension plant pathologist
Iowa State College

Seed treating and cleaning centers have been established in 60 Iowa communities in the last 5 years by elevators and seed houses to help local farmers clean and treat their seed more conveniently and economically than could be done on the farm.

Treating and cleaning seed have long been recommended farm practices for controlling crop diseases and weeds, but the high cost of equipment necessary to do this job thoroughly and on a large scale, has discouraged many farmers from taking this precaution against losses.

LARGE CAPACITY.—When stationed at these central plants, large-capacity equipment can be set up to do this job rapidly and efficiently at a reasonable cost for each farmer. Last year these centers, four of which have portable equipment, treated and cleaned 150,000 bus. of small grain seed. Most of the centers are located in the northwestern part of the state in the "cash" grain area.

Many of the elevators co-operating with the Iowa Extension Service in this program are using an automatic gravity-fed seed treater that has a capacity of up to 400 bus. an hour. This type of treater uses an automatic scale that dumps the hopperful of seed and fungicidal dust into a long chute for adequate mixing. The hopper is filled from the elevator bins.

Forty of these machines are now in use in this state. This treater was developed by the United States Department of Agriculture in 1935 and has been improved considerably since then. The first seed treatment center in Iowa equipped with this machine was established at Kanawha by the Northern Iowa Experimental Ass'n.



Driers at Garst & Thomas Co.'s Seed Corn Processing Plant at Coon Rapids, Ia.

The Latest in Hybrid Seed Corn Processing Plants

Approximately 170,000 bus. of hybrid seed corn will be processed this fall at the Garst & Thomas Pioneer Hi-Bred Corn Co. plant at Coon Rapids, Ia. During the five to six weeks constituting the busy season, this plant, said to be the largest hybrid corn processing plant, will handle 8,000 bus. daily in two 10-hour shifts.

An average of 50 truckloads of hybrid seed corn from growers in Humboldt, Pocahontas, Plymouth and Carroll counties, Ia., is dumped daily upon the long, rubber-covered conveyor belt that carries it to sorting stalls at the top of the plant. Here men work rapidly at the first sorting, discarding discolored, rotten, diseased, or imperfect ears, and dropping selected ears thru slots to another conveyor. The second conveyor moves the corn to another sorting room where 48 men work at a long sorting counter and pick out any imperfect ears overlooked in the first sorting.

From the second sorting, the corn is conveyed to drying bins. Huge blowers, mounted on wheels so they can be moved parallel to the building, dry the corn. The blowers are fans 6 ft. long and 3½ ft. high, driven by 50 h.p. motors, drawing heated air from an oil furnace and delivering it thru flexible wind trunking connecting with the top of drying bins. The blower forces the hot air down thru one bin, lets it rise thru another to handle two adjacent bins at a time, and runs continuously for 72 hours to complete the job of drying. With moisture in the corn at 30 per cent the temperature used is 100 degrees F.; 25 per cent, 105 degrees; 20 per cent, 110 degrees, the highest temperature used.

When the drying is done, the corn is conveyed to special shellers incorporating rubber cylinders of Garst & Thomas' own design. Then it is mechanically graded, treated, and sacked ready for storage and subsequent shipment. A complete machine shop is a part of the equipment of the plant, necessary to keep the plant operating at maximum capacity.

The Garst & Thomas plant is employing 700 men thru the busy season this fall. The quality of this year's hybrid seed corn crop is reported excellent and the large yield obtained from planting properly seasoned seed fully justifies the higher price asked for it.

It is cheaper to buy a new controller starting switch than to rewind a burned-out motor.

A sometimes forgotten, but all important axiom of merchandising is the practice of a merchant serving as purchasing agent for his public. A merchant who thinks of his business as a buying agency for his customers is likely to reduce his costs of doing business. He will have fewer mistakes resulting in losses to be recouped. He will have gone also a long way toward earning public confidence and good will.

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Seed from Hybrid Corn Unworthy of Planting

By U. J. NORGARD, extension agronomist
South Dakota State College.

Beauty in hybrid corn is only one generation deep and farmers who select ears from fine hybrid fields this fall for 1942 seed are courting a decline of about 15 per cent in next year's corn yield.

Tests by the Department of Agriculture and several state experiment stations show that the hybrid corn saved for seed a second year usually produce a crop no better in yield than ordinary open-pollinated corn. Most of the other good characteristics of hybrid corn—strong stalks, insect and disease resistance, uniformity, etc., are lost in the second year.

In pointing out that it is poor economy to save pennies on seed costs and lose dollars at harvest time, it is explained that good hybrid seed costs about 75 cents an acre to plant. Therefore, if the hybrid yields but one extra bushel of corn per acre, it pays for its own seed costs.

No matter how pretty a crop your hybrid corn produced this year, no matter how straight the stalk, how broad the leaf, how heavy the ear, how uniform the stand, or how big the yield, better resist the temptation to save seed ears.

New Seed Trade Marks

New seed trade marks published by the U. S. Patent Office include the following:

ANDERSON, CLAYTON & CO., Houston, Tex. No. 442,183, "Paymaster," in script lettering for field and garden seed.

THE FARR CO., Greeley, Colo. No. 441,340, "Peak Brand" and a replica of a snow-covered mountain peak, for alfalfa seed.

J. OLIVER JOHNSON SEED CO., Chicago, Ill. No. 446,051, "Boulevard," in outline lettering, for lawn grass seed.

MITCHELL FARMS, Windfall, Ind. No. 443,640, superimposed replicas of an ear of corn, and a steel bin, with a design bearing the words "Crib Filler Hybrid Certified Seed Corn," for shelled seed corn.

PRODUCERS CROP IMPROVEMENT ASS'N, Piper City, Ill. No. 442,497, an outline map of Illinois with superimposed designs bearing the words "Hy" and "Producers' Certified Hybrids," for field seeds and hybrid seed corn.

IOWA-MISSOURI HYBRID CORN CO., Pulaski, Ia. No. 439,251, a replica of an ear of corn, superimposed upon an outline of a 5-pointed star, and bearing the words, "Iowa Missouri All Star," for hybrid seed corn.

International Milling and Baking Contest

All of the important hard red winter wheat producing states have entered samples of wheat in the forthcoming Milling and Baking Contest to be held in connection with the International Grain & Hay Show. During the week of Nov. 29 to Dec. 6, when the Grain & Hay Show is in progress at Chicago's Stock Yards, the prize winning samples will be on display. A total of twenty-eight entries from the states of Colorado, Kansas, Nebraska, Oklahoma, and Texas are competing for the honor of "the most valuable sample of wheat from the millers' and bakers' standpoint."

Six cereal chemists, representing as many commercial mills and state institutions are donating their services in conducting the milling and baking analyses on these samples. Work will be done independently and the final score for each sample will be obtained by averaging the results of the collaborating chemists. Each chemist will use his own laboratory procedure but a common score card will be used in scoring the samples.

Sixty per cent of the total score will be de-

termined by the baking analysis. The milling analysis will count thirty per cent while external appearance will count but ten per cent. Glenn H. LeDioy, sec'y of the Nebraska Grain Improvement Ass'n, is superintendent of the 1941 contest.

The Milling and Baking Contest is backed whole-heartedly by the millers of the Southwest as evidenced by their co-operation in conducting the detailed milling and baking analysis. The contest is sponsored by wheat improvement ass'ns in the states competing in the contest as a part of their educational programs to encourage the production of high quality varieties of wheat.

Preferred Wheats Earn a Premium

[From an address by Jess Smith, President of the Kansas Wheat Improvement Ass'n.]

Mills in the United States grind about 100,000,000 barrels of flour annually. About 40,000,000 barrels of this flour are used by commercial bakeries. Because of the high quality of Kansas wheat, about 95% of all the flour milled in Kansas is sold to bakers. Kansas has only about 1/65 of the population in the United States but grows enough wheat to supply 1/3 of the bread ration of the people of the United States, and this means that about 90,000,000 bus. of every Kansas crop is shipped out in the form of flour. This means that the flour mills will provide the market for most of the wheat grown in Kansas, in fact, the mills furnish the market for 90,000,000 bus.

Eastern mills can just as readily get their wheat from Nebraska, North Dakota and other western states as from Kansas, hence it is important to maintain the high quality of Kansas wheat. The wheat farmer is the key man in any wheat improvement program. He should realize that quality counts and that quality pays. We cannot market 140,000,000 bus. of wheat a year at a premium unless the wheat is of premium quality.

Millers do not want smutty wheat, wheat with rye mixed in it, nor can they maintain the reputation of Kansas flour by accepting or grinding mongrel, poor quality varieties or indiscriminate mixtures of hard and soft wheat. By failing to pay attention to the quality of their wheat, Kansas farmers can easily impose a tax in the form of a discount on off-grades of 2c a bushel or more on every bushel of wheat that is grown in Kansas.

Since 1938 the Kansas Wheat Improvement Ass'n has carried on an educational program by means of county wheat plots, wheat field days, publicity, exhibits, and other means. Each year large quantities of pure seed of approved varieties are located, listed and made available for planting.

Elevator managers are in close contact with wheat growers and can accomplish much good if they will encourage farmers to plant pure seed of the approved varieties.

While Chiefkan and Red Chief yield well per acre, have high test weight and mill out a good return of flour, there is one thing wrong with flour milled from these varieties. It will not make good bread in a commercial bake shop, and the bakers won't accept flour made from these varieties.

For this reason millers must go to great trouble and expense to keep these varieties out of their wheat mix. At present, the only means by which they can guard against getting such wheats as Chiefkan and Red Chief is by having field surveys made of the growing crop and avoiding the purchase of wheat in those sections where such wheat is raised. The mills go to great trouble and expense in maintaining laboratories to test various wheats for their milling and baking quality. All this is costly to millers, wheat growers and grain dealers.

The present acreage of these poor quality wheats is a serious threat to the reputation of the entire wheat and flour industry of Kansas. If the acreage of these undesirable wheats is allowed to increase the baking industry will turn to mills in other states for their flour, and Kansas will lose a large part of its market for its wheat.

Alfalfa in Nebraska

Many variety tests have shown wide differences in adaptation of varieties for Nebraska. Southern domestic and foreign alfalfas which are not cold resistant have proved inferior in both stand longevity and yield compared with Nebraska Common, Northern commons, Grimm, Baltic, Cossack, Ladak, and Hardistan. Of the latter, only Hardistan, however, is resistant to bacterial wilt. Cossack, Baltic, Hardigan, Kansas Common, Utah Common, South Dakota Common, German, and Hungarian, as an average of all tests have equaled or surpassed Grimm in yield, while Orestan, Hardistan, Kaw, and Turkistan have been superior in stand longevity.

A long-time stand, if desired under bacterial wilt conditions, may be achieved best with varieties such as Hardistan and Orestan, although lower yields must be anticipated in the early years. When stands of only from 3 to 4 yr. are desired, the first-named varieties can be used. New varieties being developed may combine high yield of seed and forage and ability to maintain stands for a long period.

Tests on irrigated farms in the Platte Valley and at North Platte Substation substantiated results at Lincoln in stand survival, except that wilt-susceptible varieties as Grimm, Baltic, and Common succumb more rapidly than at the station, while varieties as Turkistan and Hardistan maintain superior stands. Ladak has proved somewhat intermediate between Turkistan and Grimm in stand survival but has been a good yielder at North Platte. Its relatively high yield in the first cutting makes it also desirable where one cutting during the season is the rule.—Nebr. Sta. Bull. 331.

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Alfalfa Seed Production Affected by Lygus Bug

By JOHN W. CARLSON, Bureau of Plant Industry.

Investigations have shown that many factors affect seed setting in alfalfa (*Medicago sativa* L.). No fully satisfactory explanation, however, has been found to account for the major declines in yields of alfalfa seed and the seed-crop failures that have occurred in widely separated regions in recent years. Exceptionally high yields, ranging from 400 to 1,000 pounds or more of seed to the acre, have been reported for earlier years of production in the Arkansas Valley of Colorado and in the Uinta Basin and Millard County of Utah. In 1925 Utah produced 22 million pounds of alfalfa seed, which was approximately 40 per cent of the nation's total of that year. This peak in production was followed by a decline in acre yields and a low total production, which since 1930 has frequently not exceeded 5 million pounds annually.

The general decline in yield of alfalfa seed in Utah appears to be partly attributable to bud damage and flower fall that have recently been shown to result from injury caused by Lygus bugs (*Lygus hesperus* Knight and *L. elisus* Van Duzee).

SYMPTOMS OF LYGUS DAMAGE—Severe bud damage and flower fall in alfalfa that are attributable to Lygus infestation are indicated in the field by whitish-yellow areas or strips that are conspicuous in contrast to the normal deep green of undamaged and healthy alfalfa. The discoloration results from the presence on the plants of dead, dried, and bleached buds and numerous rachises from which flowers have fallen.

General bud damage in alfalfa is illustrated in figure 1. For comparison, figure 2 shows racemes of healthy buds, flowers, and seed pods that are borne on long peduncles or stalks.

Superficial evidence of damage to buds is indicated by a slight bleaching that becomes apparent 24 to 48 hours after infestation. Death and complete disintegration of the injured buds may follow in a few days. Dead buds frequently remain attached to the floral axis and retain more or less the size and shape they had at the time of injury. Discoloration and disintegration of injured buds begin at the punctures and are apparently caused by a toxic or irritant substance that is emitted with the saliva of the insects at the time of feeding. This observation is supported by the work of Smith, who studied the feeding methods of capsid bugs (Miridae) which are closely related to Lygus. He showed by removing the salivary glands of harmful and harmless species and placing them on apple fruit and foliage and pricking slightly the cells beneath with a fine needle that the damage is chemical rather than physical in character. King and Cook showed that Lygus bugs and closely related species feed by the same process, namely, by inserting their mouth parts into plant tissue and sucking the sap, but that more serious pathological effects follow feeding by some species and individuals than by others.

A determination of the nature of Lygus damage in alfalfa cannot always be made from material infested in the field. Advanced stages of bud disintegration sometimes obliterate all evidence of the original punctures. Identification, however, can usually be successfully made from artificially infested racemes of buds when sectioned on the microtome, stained, and examined under the low power of the microscope. Numerous punctures made by repeated insertions of the proboscis of the insect have been found within a portion of a single bud. Areas of disintegration absorb the stain more readily than the undamaged parts of buds and can thereby be easily recognized. Mechanical damage resulting directly from the Lygus feeding punctures is apparently of local and rather limited effect. It appears that major damage develops from secondary or indirect effects,



Left: Terminal Portions of Three Alfalfa Stems Showing Lygus Damage. Right: Terminal Portions of Three Alfalfa Stems Showing Normal Development of Buds, Flowers and Seed Pods. One-third Natural Size. Photo by Bureau of Plant Industry, U.S.D.A.

such as distorted vegetative growth and pro-fuse proliferation, which are discussed in detail in a later section of this paper. Recovery from the effects of an infestation of short duration is sometimes noticeable from 5 to 10 days after the application of an insecticide to remove the insects.

SEED YIELDS from plants receiving different infestation and insecticide treatments differed strikingly. The highest yield of seed per plant resulted from uninfested plants that were dusted frequently to control Lygus, while the lowest yields were obtained from those undusted and continuously infested. Differences in the yield of seed resulted also from variations in the time of applying the infestations to plants in different stages of vegetative and reproductive development.

Mean yields of slightly more than 12 gm. of seed per plant, which were obtained from the uninfested and dusted plants, are estimated to be equivalent to an acre yield of from 200 to 300 pounds. This estimate is based on the yields of many 1-year-old hill-spaced alfalfa plants at the Uinta Basin Alfalfa Seed Experimental Farm of the Utah Agricultural Experiment Station in years when successful seed crops were produced. The low average yield of 2.30 gm. of seed per plant obtained from the plots infested with Lygus would not, on the same basis of comparison, be expected to pay for the costs of harvesting and threshing.

The differences in yield of seed shown by infested and insecticide-treated plants are highly significant statistically. Differences resulting from varying the time of the infestation in re-

lation to stages in the development of the plants are small but near the border line of low statistical significance. The consistently low yields of seed obtained under continuous Lygus infestation are evidence that greater damage to seed production results from long and continued Lygus infestation than from short or periodic infestations of limited duration. More serious damage to seed production seems to have resulted from Lygus infestation in the full-bloom stage than from infestation in the early stages of vegetative development.

A high shrinkage in recleaning, which in some cases exceeded 50 per cent, has occurred in commercially produced crops in years when Lygus has been suspected as a cause of the low yields.

CONTROL OF LYGUS—Increased yields of alfalfa seed have resulted in some cases from various cultivation and sanitation practices attempted by commercial seed growers. Some of these methods have not been tested under experimental control in Utah, and recommendations cannot, therefore, be made at this time. In one case, a Lygus-infested alfalfa field in which dry grass was burned following the removal of the first hay crop showed a striking improvement in the appearance and condition of the buds and flowers on the subsequent growth of the alfalfa. The seed produced after the burning was reported to have exceeded 200 pounds to the acre and was the best that had been produced in the field for several years. It was obvious from inspection that this seed crop was superior to those in adjoining unburned fields.—Journal of Agricultural Research.

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Grain Carriers

The rate on grain or soybeans from Chicago to St. Jacob, Ill., is canceled in C. & E. I. R. R. supp. 11 to tariff 605, effective Dec. 3.

During the first 10 months of 1941 the railroads installed 34,128 box cars. New freight cars on order Nov. 1 included 53,452 box cars.

Freight revenues of 36 Class I railroads in the Western district in October amounted to \$129,201,946, compared with \$104,117,320 in October, 1940.

Boise, Idaho—Grain growers, millers and railroad men conferred here Nov. 11 on proposed reductions in rates on grain shipments to Pacific and southeastern markets.—F.K.H.

Texas railroads have asked the Interstate Commerce Commission to institute a 13th section investigation of rates on grain and grain products ordered reduced by the Texas Commission, by the elimination of all differentials within Texas, declaring the rates will not bear their just share of the national transportation expense.

Chicago, Ill.—The National Ass'n of Shippers Advisory Boards held its annual meeting at the Stevens Hotel Nov. 10 and re-elected the old officers. J. J. Pelley, pres. of the Ass'n of American Railroads, said the carriers were not getting enough steel to keep up with their car-building program, which is 24,000 cars behind schedule.

Railroad and truck lines are essentially supplementary and not competitive, declared Thomas H. MacDonald, commissioner of the Public Roads Administration, before the American Trucking Ass'n, Inc., meeting in New York City's Pennsylvania Hotel, Oct. 27-30. An extensive study by his administration not yet made public, he said, shows 70% of all truck trips are within a 50 mile zone.

Grain and grain products were loaded into 40,297 cars during the week ended Nov. 15 an increase of 4,765 cars above the preceding week, and an increase of 10,298 cars above the corresponding week in 1940. Cars of grain for export unloaded at Atlantic, Gulf and Pacific ports in October totaled 3,232, compared with 685 in October, 1940, as reported by the Ass'n of American Railroads.

Examiner Pierce has recommended that the Interstate Commerce Commission discontinue the proceeding initiated by it in the matter of stopping in transit rules on beans from Michigan to Ohio and Indiana, established by Co-operative Services of Mt. Pleasant and Ingham Brokerage, Inc., of Lansing and objected to by the railroads. The Examiner held the rules and charges not unreasonable.

The Supreme Court of the United States heard argument Nov. 18 in Board of Trade of Kansas City v. Interstate Commerce Commission where the Board of Trade is protesting against the Commission's order prohibiting transit on grain at Kansas City, Minneapolis, St. Joseph, Omaha, Atchison and Leavenworth. F. A. Laffingwell of Dallas represented the opposition on behalf of the Forth Worth Grain Exchange, while M. W. Borders of Kansas City represented the primary markets. The proportional rate Kansas City to Chicago is 16c over many routes including via Omaha, but while Des Moines and many other interior Iowa points can transit on the 16c rate Omaha itself must pay 16c plus the 6½¢ combination or 22½¢ to Chicago. The Commission's attorney argued that the relief sought should be denied as to grant it would require the Supreme Court to perform administrative functions.

Baltimore, Md.—All shipments of grain for bulk lighterage delivery on the Pennsylvania Railroad at Baltimore have been embargoed since Nov. 15, the facilities no longer being available.

The Sault Ste. Marie Canal will be closed at midnight Dec. 10 and the Welland Canal at midnight Dec. 12. After Nov. 28 the Canadian government has ruled that the superintendent may refuse passage to any vessel thru the Ontario-St. Lawrence Canals, and after Nov. 30 downbound thru traffic may be refused entrance.

Chicago, Ill.—More than 1,500 were present at the luncheon of the National Industrial Traffic League at the Palmer House Nov. 13, where Ernest E. Norris, pres. of the Southern Railway, spoke on "Our Railroads, To-day and To-morrow." Officers elected at this annual meeting are: pres. R. R. Ludecke, New York; vice-pres., Clare B. Tefft, Toledo, O.; treas., R. W. Campbell, Chicago. Among the numerous directors elected are J. L. Bowles, Milwaukee; C. A. Lahey, Chicago.

Work of Northwest Com'ite on Moving the Crop

By E. J. GRIMES, chairman Northwest Committee to Acquire and Disseminate Information to Facilitate Handling and Storing of Grain.

A short time after the Fargo meeting the committee concluded that a permit system should be instituted on grain for storage, to supplant the method then in force.

In the original embargo notice, issued late in July, there were two exceptions to the ban placed on shipments of grain for storage in terminals. That embargo did not apply to Commodity Credit Corporation grain and it did not apply to shipments of grain for storage for the account of parties other than Commodity Credit Corporation, providing the loading railroad was furnished satisfactory evidence that storage space actually was available in the terminals for the grain. The last named exception gave indications of causing dissatisfaction. It placed in the hands of individual terminal elevators the authority to allocate terminal space to country shippers. The Committee believed that this method of distribution of terminal space could be improved upon.

So a plan was evolved which placed the allocation of terminal space in the hands of a sub-committee of the larger committee. This plan was cleared with and approved by the Minnesota Railroad & Warehouse Commission, in St. Paul, and the Wisconsin Grain & Warehouse Commission of Superior, Wis. The amended embargo became effective on Aug. 9 on grain and flax destined for storage in Minnesota terminals and on August 12 on shipments for storage to Superior, Wis., terminals. The sub-committee was named the "Permit Committee" and commenced functioning immediately.

A representative of the Minnesota Railroad & Warehouse Commission was placed on the Permit Committee in the person of Mr. John Dwyer. Mr. Dwyer has served faithfully and well. I believe he has attended every meeting of the Committee. The Wisconsin Commission was also invited to appoint a representative to the Committee, but circumstances made it inconvenient for the Commission to have a representative in attendance at meetings in Minneapolis. However, minutes of all meetings of the Permit Committee have been kept and are on file for inspection by any and all that may want to see them.

AN OFFICE with a full personnel was established at 1011 Chamber of Commerce, Minneapolis. Arrangements were made to receive tenders of terminal space from Minneapolis, St. Paul, Duluth and Superior terminal warehouses. Forms, to be used by country shippers in making application for terminal space, were sent out in large blocks to AAA county committees in the four Northwestern states for distribution to all country elevators. Accom-

panying the application blanks were complete instructions and directions for their use.

PERMIT COMMITTEE PROBLEMS.—Almost at once the Permit Committee was faced with the problem of rationing to country shippers, hungry for terminal space an amount of terminal space far under the quantity desired. The Committee deemed it advisable to set up a priority system based on degrees of emergency or distress in the country. Later on, in the interest of obtaining information for its guidance in providing relief where it was most urgently needed, the Committee requested the AAA county committees to furnish it with a report supplementary to the regular weekly report, showing in percentages of each county crop estimates of amount of grain and flax uncut, amount in windrow, shock or stack, amount that already had been delivered to country elevators, amount in farm storage, and amount piled on the ground. From these reports maps were made up, using colors to reflect the varying county conditions. In its daily review of applications these maps were of inestimable value to the Committee.

That is a brief outline of the manner in which the Permit Committee has functioned. It has reviewed hundreds of applications for permits. It has issued almost 2,500 permits, covering about 6,000,000 bus. of terminal space. A part of this terminal space went to Commodity Credit Corporation for corn and some for wheat. Most of the CCC corn has been shipped to Duluth and Superior, where the corn was unloaded into space made vacant by shipments of CCC corn by lake. Commodity Credit corn occupied space in Duluth and Superior when the Permit Committee commenced to function and Commodity Credit has used only that same quantity of space for corn, turning it over many times. Commodity Credit also relinquished to wheat over 2,000,000 bushels of space occupied by corn in Minneapolis when the corn was shipped out.

St. Lawrence Seaway Unnecessary

By CHAS. W. STADELL, chairman of the legislative committee of Midwest Shippers Advisory Board

From a transportation standpoint, the construction of the proposed seaway is undesirable and unnecessary. The railroads have been doing a magnificent job in meeting the transportation needs of the country in the present emergency, and they have the plant and equipment to handle a vast amount of additional traffic.

For many years we have been faced, not with a shortage but a surplus of transportation facilities, and we will be confronted with the same conditions after the present emergency has passed. From the standpoint of necessity, for additional transportation facilities, therefore, the proposed seaway is not only unnecessary but would impose an unreasonable and unnecessary burden upon the shippers and the existing transportation agencies of the country.

It is admitted by all, but that this proposed waterway could be used but approximately seven or eight months of each year, because for the balance of the year boats could not be operated due to the frozen condition of a part of such waterway.

A poor bank loan is usually a poor credit risk. The banker has had experience, and knows his clients.

The Minetree Brokerage Co., Poplar Bluff, Mo., is not entitled to receive brokerage payments on sales made to the Poplar Bluff Wholesale Grocery Co., the Federal Trade Commission having found that the members of the "brokerage" concern owned 88% of the stock in the grocery company. A mill company of Topeka, Kan., has been ordered to discontinue paying a brokerage of 20c a barrel on such sales.

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Feedstuffs

Farmington, Minn.—Feed and seed dealers in this area will hold a meeting here Dec. 2.

Chicago, Ill.—Directors of the American Feed Manufacturers Ass'n will meet Nov. 28 at the Union League Club.

The Farm Service Division of General Mills, Inc., now operates 117 feed and flour stores, from California to Florida.

Brewers Dried Grains production during October amounted to 10,800 tons, against 7,200 tons in October, 1940, as reported by the U. S. D. A.

Distillers Dried Grains production during October amounted to 23,200 tons, against 16,200 tons in October last year, according to the U. S. Dept. of Agriculture.

Quincy, Ill.—Not until Nov. 4, 1941, did the Food and Drug Administration publish a decision of June 25, 1940, that a shipment of 47 blocks of hog block minerals to Oklahoma City, Okla., be destroyed for false and misleading representations.

College Park, Md.—The collaborative checking of samples is being continued by the Association of American Feed Control Officials and more feed manufacturers are invited to work with the state chemists in thus developing better methods of analysis. Information will be supplied gladly by L. E. Bopst, sec'y, College Park.

Washington, D. C.—For the 4 months, July thru October, the total shipments of stocker and feeder cattle into the corn belt states this year were sharply reduced from both 1940 and 1939. Shipments inspected at stockyard markets were down about 23 per cent from 1940 and 17 per cent from 1939 and were below the 1936-40 average for the period. The reduction in direct inshipments for the period was equally as large. Present indications are that fewer cattle will be fed this winter in all of the corn belt states except in the three States west of the Missouri River. In these states some increase may take place although the increased movement into Kansas includes relatively large numbers going to wheat field pastures rather than to feed lots.—U. S. D. A.

Detroit, Mich.—The Federal Trade Commission ordered Salt Producers Ass'n, 20 companies manufacturing and distributing a large percentage of all the salt produced in the United States, and the New York firm of Stevenson, Jordan & Harrison, Inc., and two of its officers, to cease and desist from a combination or conspiracy to fix or maintain prices for and curtail or regulate the production or sale of salt. The respondent producers are: Averb Salt Co., New Orleans; Barton Salt Co., and The Carey Salt Co., Hutchinson, Kan.; Cayuga Rock Salt Co., Myers, N. Y.; Colonial Salt Co., Akron, O.:

Quartermaster Buying Oats

The Atlanta quartermaster depot, Glen St. and Murphy Ave., S.W., Atlanta, Ga., let contracts Nov. 25 for No. 2 sacked oats for delivery at southeastern army posts during December, January, February and March, as follows: Camp Forrest, Ten., 14,437 bus.; Fort McPherson, Ga., 972 bus.; Fort McClellan, Ala., 708 bus.; Fort Oglethorpe, Ga., 7,653 bus.; Fort Moultrie, S. C., 448 bus.; Fort Benning, Ga., 6,250 bus.; Fort Jackson, S. C., 7,238 bus.; Atlanta General Depot, 562 bus.; University of Florida, Gainesville, Fla., 1,968 bus.; Alabama Polytechnic Institute, Auburn, Ala., 2,057 bus.; Fort Bragg, N. C., 62,948 bus.

Detroit Rock Salt Co., Detroit; Diamond Crystal Salt Co., Inc., St. Clair, Mich.; International Salt Co., Scranton, Pa.; Jefferson Island Salt Co., Inc., Louisville, Ky.; Hardy Salt Co., St. Louis; Morton Salt Co., Chicago; Myles Salt Co., Ltd., New Orleans; Mulkey Salt Co., Detroit; Ohio Salt Co., Wadsworth, O.; Ruggles & Rademaker Salt Co., Chicago; Saginaw Salt Products Co., Saginaw, Mich.; Union Salt Co., Cleveland; Watkins Salt Co., Watkins Glen, N. Y.; Worcester Salt Co., New York; and American Salt Corporation, Kansas City, Mo., the last named being the only producer in the group not a member of Salt Producers Ass'n.

Canadian Feed Subsidy

According to Tom Reid, M.P., the government has agreed to pay freight on feed grain shipped from Alberta into British Columbia for poultrymen, diarymen and stock feeders.

Buyers of millfeed in Ontario and the eastern provinces of Canada are now getting the advantage of the government's freight subsidy of \$4.50 ton on feed grains and their products moving eastward from the head of the lakes. This applies only to western spring wheat millfeed. Ontario feed is not included.

Buyers and sellers of millfeed have been supplied with certificates and reporting forms and are now in a position to go ahead with business.

Permits to ship millfeed to United States to fill old contracts are also being distributed.

Purdue Nutrition School

Despite most unfavorable weather a registration of 155 attended the second annual nutrition school of Purdue University at Lafayette, Ind., Nov. 6 and 7. Feed firms covering the whole state of Indiana were well represented.

FRED K. SALE, sec'y of the Indiana Grain Dealers Ass'n, opened the morning session the first day with an address on "The Nutrition School in Its Relation to Feed Salesmen," forecasting an increasing interest in the school.

The papers presented related not so much to farm practice as to feeding problems, such as the address of Prof. C. W. Carrick on "Current Problems in Compounding Poultry Rations."

In this or following numbers will be published the addresses by P. B. Curtis on "Relation of Indiana Feedstuffs Control Law to Problems in Nutrition;" by Frank J. Holt of Aurora, Ill., on "Application of Nutritive Principles to Commercial Feeds;" by C. L. Shrewsbury on "Fundamentals of Good Live Stock Rations;" by J. H. Hilton on "Supplementary Feeding of Dairy Cows on Pasture;" by F. B. Morrison of Cornell University on "Quality of Protein in Live Stock Feeding;" by C. R. Donham on "Relationship Between Nutrition and Disease in Farm Animals."

At the dinner in the evening the toastmaster was C. R. Donham and the speaker was Professor Frank R. Hall.

Friday informal conferences were held in the Poultry Building, in the Animal Husbandry Room and in the Dairy Conference Room, Smith Hall.

Co-operation by the Indiana Grain Dealers Ass'n and the American Feed Manufacturers Ass'n contributed to the success of the School.

Heavy receipts of ear corn at country elevators brings up again the old problem of cob disposal. Grain dealers are still looking forward hopefully to a time when industry will find a use for cobs and pay enough for them to make handling pay its way.

Correct Descriptions of Ingredients

L. E. Bopst, sec'y of the Ass'n of American Feed Control Officials, has written R. M. Field, pres. of the American Feed Manufacturers Ass'n, urging publicity of the necessity for more accurate description of feed ingredients. He writes:

"Feed law enforcement officials are very much interested in the use of correct designations for feed ingredients. Since it is necessary to list ingredients on a bag of feed, we feel that every effort should be made by all parties concerned to have such declarations correspond to the names given the materials by the Association of American Feed Control Officials, and to which the industry has given its approval.

"Mistakes most frequently noted have been the use of soybean meal for soybean oil meal, dried milk for either dried skimmed milk or dried buttermilk, peanut meal for peanut oil meal and standard bran for wheat bran with mill run screenings.

"Since the time is approaching for the renewal of registrations in the majority of states, it now seems most opportune to bring this situation to the industry's attention. Care should be exercised in the preparation of registrations and bag labels to insure the correct designation of the ingredients used."

Relation of Nutrition to Necrotic Enteritis and Other Diseases in Swine

By J. P. WILLMAN and J. L. KRIDER, Department of Animal Husbandry, Cornell University.

This paper contains report of symptoms of diseases or abnormal conditions caused by feeding rations deficient in various vitamins or minerals. Methods of preventing losses due to these deficiencies are discussed. Sources of vitamins A, D and of the vitamin B complex are given. The quantitative requirements of the pig for these factors and for calcium, phosphorus, salt and iodide are given in cases where sufficient experimental results are available.

Nicotinic acid does not seem to be the only factor involved in necrotic enteritis in swine and more experimental work needs to be done before positive conclusions can be drawn. Hughes (1940) has shown that 15 milligrams of nicotinic acid per hundredweight daily is adequate for growing pigs.

Apparently the pig requires one milligram of thiamin and between one and three milligrams of riboflavin per 100 pounds liveweight daily (Hughes, 1940).

Experimental evidence is presented which shows that the pig requires vitamin B₆ and pantothenic acid in the diet, but the quantitative requirements are unknown.

It is shown that a ration which contains 5 per cent of average quality U. S. No. 2 alfalfa hay may meet the minimum carotene requirement for growing and fattening pigs in dry lot. Likewise a ration which contains 80 per cent of yellow corn provides an adequate amount of carotene and the addition of 5 per cent of average quality alfalfa hay supplies sufficient carotene for considerable storage. It is reported by Guilbert and associates (1937) (1940) that growing pigs require 125 micrograms of carotene per kilogram of body weight daily.

One of the most practical and inexpensive methods of supplying vitamin D in winter rations for swine is to include about 5 per cent of sun-cured alfalfa or other legume hay.

Reports are given of experiments which show that the minimum requirement of phosphorus for growing pigs was between 0.27 and 0.30 per cent. Also, 0.41 per cent of calcium was sufficient for normal growth of young pigs, but 0.25 per cent of this mineral was found to be inadequate.

Less rapid and less economical gains in live weight may result from including too high a percentage of calcium and phosphorus in rations for pigs.

Feed Establishments to Be Inspected for Wage-Hour Compliance

Inspection of all feed establishments will be resumed by the Wage and Hour Division, U.S. Department of Labor, in January to ascertain compliance under the Fair Labor Standards Act. Feed establishments are among the group of businesses whose transactions generally are the type which must be measured on a volume basis to determine whether they are exempt under the law as retail or covered as non-retail.

As was announced at the time of issuance of its revised Interpretative Bulletin No. 6, last June, the Division has instructed its inspectors to examine records of these establishments upon the total dollar volume of sales at the close of the six-months' period which began July 1, 1941. Routine inspections of the establishments were discontinued for the period.

While the law exempts from the wage and hour provisions employees engaged in any retail or service establishment which does more than 50 per cent of its business in the state of its location, employees of most distributional establishments are subject to the provisions of the law calling for a 30-cents-per-hour minimum wage and overtime pay of at least one and one-half times their regular hourly rate of pay for work beyond 40 hours per week.

However, the Division will not regard any selling establishment as a retail one unless at least 75 per cent of its sales during the six months' period were of a retail nature. Therefore, where it is found that wholesale, commercial and industrial sales, non-retail in character, amount to more than 25 per cent of the total dollar volume of all sales, the minimum wage and 40-hour week provisions of the law must have been observed for employees engaged in such transactions.

Under its broadened concept of "retail trade" as described in the Bulletin, the Division will regard some sales to industrial or commercial purchasers as retail in determining the status of an establishment under the Wage-Hour law. However, these sales must be of articles commonly sold both to business and private purchasers, and must be sold in a quantity or at a price similar to the quantity or price involved in sales to private purchasers.

THE FIRST requirement of a retail establishment is that it have retail characteristics. These, as listed in the Bulletin, include numer-

ous small sales, a regular patronage by the consuming public, and the sale of goods for direct consumption, not for resale or redistribution in any form.

In its special reference to feed establishments, the Bulletin explains that the sale, in small quantities and at regular prices, of feed, hay, fertilizer, and similar products, to farmers in the vicinity of a feed establishment is properly to be considered as retail, exempt sales. Sales to feed stores, large commercial poultry and dairy farms, etc., and the sales of fertilizer to meet the requirements of huge commercial nurseries, etc., which, because of the quantities involved and the prices received, or because of the fact that the sale is made for resale purposes, cannot be considered retail transactions. If the gross receipts from such transactions exceed 25 per cent of the total dollar volume, the establishment will not be considered a retail establishment.

Similar reasoning makes the grinding of feed and other such products for private consumers in the vicinity a processing service incidental to retail sales, and, therefore, exempt. However, the establishment which operates a distinct feed-manufacturing plant, not operated merely as an incident of retail selling, is not exempt.

Feed establishments which assemble and prepare agricultural commodities for shipment also are not considered engaged in an exempt operation. Accordingly, grain elevators, certain creameries, and establishments engaged in assembling and shipping live poultry and eggs are not retail establishments within the meaning of the law. However, if these operations are exempt under section 13(a)(10) which states that the wage and hour provisions shall not apply "to any individual employed within the area of production (as defined by the Administrator), engaged in handling, packing, storing, ginning, compressing, pasteurizing, drying, preparing in their raw or natural state, or canning of agricultural or horticultural commodities for market, or in making cheese or butter or other dairy products;" and if the rest of the establishment qualifies for the retail exemption, the employees will be considered entitled to a combination section 13(a)(2)—13(a)(10) exemption.

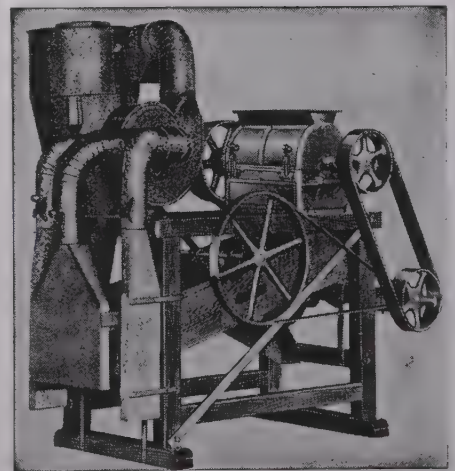
Flat-bottom bins (there are a few of them even among newer elevators) are an invitation to weevil and other stored grain pests. The trouble is that the corners of the flat bottom bins are seldom swept as carefully as is necessary to remove all refuse.

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Co-operation Between Control Officials and Manufacturers

By C. S. WOOLMAN, Chicago, Ill., before Ass'n. of American Feed Control Officials.

There is an old saying, "It all depends where you sit how your picture looks," and I earnestly ask you Feed Control Officials that you will sit over on the feed manufacturers' side and try to understand what their problems are and how you can help us meet them and still comply with the laws of your states and the regulations promulgated by your departments. We are facing, through priorities, certain shortages of ingredients which we have used in our feeds over a period of years—some will be bulky like blackstrap molasses, others will be lesser requirements like milk products and vitamin A and D carriers. However, they have a place in our formulas and if we are deprived of them or they become very scarce and hard to procure, it may be necessary to either eliminate them or cut down the amount used in the formula. If these ingredients are registered, the industry will need help from the feed control officials to handle a matter of this kind in an intelligent way.

Now if you will permit the feed manufacturers to change their seats and come over and sit with you for a little while to get your viewpoint, I know it would help us to understand the feed control regulations much better.

Sitting in your position, I know you must look at a sample of feed by its chemical analysis and declared ingredients to see if it complies with the registration, but, after all, is it not a duty to look after the interests of the consumer who buys the feed for a purpose and observe whether the feed truly and honestly fills the requirements for which it is made and sold?

A man, or a company, is recognized by the history or performance of their actions over a period of time, and the same thing is true of a feed. It should be classified as to the merits of its performance. Your inspectors in the field, who could come in contact not only with the distributor but the consumer, soon determine whether a feed is performing in accordance with the statements made by the manufacturers and live up to their claims. Results are the true measure of the value of a feed.

The land-grant universities of the various states, through their agricultural experiment stations, are recognizing this method in both their work and bulletins, and I directly refer you to two recent bulletins: I. No. 1—Mimeo. Circular No. 4, dated January, 1941, Broiler Cost and Management Study, Delaware, 1940, covering more than 1/2 million broilers by the Delaware Agricultural Extension Service in conjunction with U. S. Department of Agriculture, and Bulletin No. 412, dated June, 1941, by the agricultural experiment station of the University of Arkansas covering more than 400,000 broilers, in which the entire determination of merits of the feed are obtained from results in dollars and cents of the cost of producing the new pound of chicken, which, after all, is what the consumer is vitally interested in and not the chemical or microscopic analysis of the feed he uses. You will note in this instance the bio-chemist is the chicken.

II. It is further noted that a preliminary experiment was conducted in co-operation with the Division of Feed Control of the Texas Agricultural Experiment Station to determine the amount of crude fibre that can be tolerated by chicks in order to know whether the chemical standards (particularly

the maximum amount of crude fibre that may be allowed) adopted by the Feed Control Service for chick starters are correct. This was in the 53rd annual report, 1940, page 110.

WE ARE IN A FAST CHANGING ERA and methods used previously soon become outmoded. I feel sure if there is a close co-ordination between the feed control officials and their state universities that much good can be accomplished by interchange of ideas, which will result beneficially to the consumer of feeds and the manufacturer of feeds. I believe it is a progressive step towards general improvement and of benefit to all.

Naturally, when there is a deliberate attempt to make and place on the market feed which is not right, the law should be invoked.

With the mass production of the growing of poultry, turkeys, hogs, etc., in a business-like manner and the handling of dairy cows on a scientific basis, definite records are now obtainable from the results of stock, management and feeds, so that today there is a definite policing of feeds and their worth by the most critical of all bio-chemists, and that is the animal itself that eats the feed for growth and production. The animal does not understand the propaganda of salesmanship nor can it read the analysis and ingredient tag or listen to a radio program, but it can definitely, at the end of a feeding period when the results are tallied, tell you exactly the good or bad results from the utilization of a feed. You just cannot fool them.

In turn, the owner of the animal, when he arrives at his figures of cost of production, knows whether or not he gets his money's worth out of a feed, and by this answer either continues on the feed he is using or else goes to another which he believes is better. By a process of elimination, unless a feed manufacturer keeps up his standards of producing economical results, he soon ceases to be a factor in the market.

I believe that the feed manufacturers in the United States are fast realizing this, and more and more desire to make the quality of a feed that will secure the results for continued business and give satisfaction to the ultimate user, and if thru lack of control any errors are made, I feel quite sure that in most instances if same were called to their attention in a constructive manner, they would rectify them for their own best interests. Therefore, gentlemen, I hope that during this time of extreme problems and stress you will partly sit over on the industry's side and try and help us solve our problems, and I believe I can assure you that practically every feed manufacturer will co-operate to the best of their ability.

III. Feed is just a part in the program of the production of food supplies which are required for the defense program, and I am very fortunate to have a sound picture titled, "Nature's Defense Package," which was developed from money left over from the sale of tickets to the World's Poultry Congress, supplemented with money furnished by the Poultry and Egg National Board. It is an excellent film designed primarily to interest the consumer and increase the consumption of eggs. Altho made in the State of Illinois, it was so filmed that it could be used to advantage in any state and already orders have been received through the Poultry and Egg National Board for copies to be used in dif-

ferent sections of the country. H. P. Alp, under whose direction the film was made, deserves much credit for this film.

This picture shows the part that feed plays in producing higher quality food products economically, and you can readily see that each of the functions that are performed by the hatcherymen, the feed man, the farm-producer, the processor, as well as the hotels and restaurants in their service to give to the public quality food products is the measure of accomplishment.

Again this clearly demonstrates thruout this picture results are what count and I, therefore, take great pleasure in being able to present this sound picture to the feed control officials at their annual meeting, which I believe demonstrates clearly the thoughts I have just expressed and what is behind them.

Dried Grape Fruit Pulp

In feeding trials by the Florida Agricultural Experiment Station where it composed 40% of the total digestible nutrients of the ration, dried grapefruit pulp was found to have about the same value in the dairy ration as dried beet pulp. It is palatable to dairy cows and produced no detectable flavors in the milk.

Twenty-day digestion trials on 4 steers showed 24.8% of the crude protein, 71.5% of the crude fiber, 92% of the nitrogen-free extract and 79.4% of the crude fat to be digested. The dried product was calculated to contain 1.2% digestible crude protein and 76.0% T.D.N.

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Poultry Feeds and Feeding

Kewanee, Ill.—False and misleading representations as to its efficacy led to an order by the U. S. district court that a quantity of Avirem Poultry Remedy shipped by Livestock Products Distributors be destroyed.

Des Moines, Ia.—Fred K. Chandler, trading as the Tanvilac Co. has agreed with the Federal Trade Commission to cease certain representations in the sale of foods designated "Tanvilac" for poultry, livestock and swine.

Chicago, Ill.—The Third Chicago International Poultry Exposition will be held Dec. 11 to 15 in the International Amphitheater, Halsted and 43rd streets. The official premium list and entry blanks are available on application to Geo. Fitterer, P. O. Box 464, entries closing Dec. 4.

Fiber in Chick Ration

Continuing tests of the effects of various amounts and kinds of fiber in chicken rations, 300 rapid-feathering Rhode Island Red chicks, 100 in each of three lots at the Oklahoma Experiment Station were fed rations containing 4.0, 8.0 and 15.0 per cent of fiber from peanut hulls.

Chicks fed the high-fiber ration were healthy and vigorous and showed normal growth. The quality of feathering found on the chicks fed the high-fiber feed exceeded that of the low fiber feeds but no accurate measure has been worked out for this difference.

There is also some accumulated evidence indicating that fiber tends to alleviate feather picking and cannibalism.

Reproductive Performance of Breeding Turkeys on Restricted Food

Turkey growers have frequently expressed the opinion that eggs from breeding flocks having free range exhibit superior hatching power in comparison to eggs laid by breeders confined to small pens. This difference has been attributed to (1) increased activity of range breeders with less tendency to increase in body weight, and/or (2) the acquisition of nutrients not provided in the usual ration that are compatible with good hatchability.

Satisfactory hatching results have been reported from farm flocks, which for the most part have been poorly cared for and scantily fed from fall to onset of sexual maturity. In contrast, attention has been focused on the poor hatching performance of confined breeders receiving high levels of supposedly adequate diets. Data regarding the weight changes of breeders scantily fed from fall to the following March when sexual maturity is reached at this latitude and from March to the conclusion of the hatching egg season, during which period full feeding is usually resumed, are not available. The progressive increase in weight from fall to March and the decrement of approximately 15 per cent from March until June has been reported by Scott (1937) for confined breeders on full feed. Similar trends have been noted by Asmundson and Jukes (1939).

The hatching schedule adopted since turkey work was first instigated at the Kansas Experiment Station in 1928 calls for bi-weekly settings. The records show a steady decrease in hatching power of the eggs laid by pens of birds as the hatching season progresses altho individual exceptions have been noted.

Two experiments at the Kansas Station are reported in which the reproductive performance of breeding turkeys continuously on full feed was compared with similar groups receiving 61 per cent and 78 per cent as much feed during the non-laying period and free access to feed thereafter. A period of restricted intake followed by a period of full feeding enabled breed-

ing turkeys to gain weight during the first 3 weeks of the egg laying season but did not alleviate losses thereafter.

During the course of the egg laying season the weight of the female turkey diminishes approximately 18 per cent.

Neither the number of eggs laid nor their hatchability was influenced by reducing the intake to 78 per cent of that of the control group. The lower level of intake (61 per cent group) significantly reduced hatching power.

Vitamin A Retention by Hens

On a low fat (0.1 per cent or less) ration laying hens absorbed less carotene, fed in crystalline form, than on a normal ration containing about 4.0 per cent fat. When the level of carotene feeding on the normal ration was increased 4-fold, the quantity of carotene retained showed an increase of the same order, whereas on the low fat ration there was only a 2-fold increase and the quantity of carotene retained was markedly less than with the normal ration. Thus the presence of ether-extractable (fatty) substances in the ration favors the absorption of carotene.

Carotene injected intravenously was not excreted in the droppings either on the normal or low fat ration. Therefore the carotene which appeared in the excreta during the feeding experiments is probably that which was not absorbed.

In contrast with carotene, the hen absorbs vitamin A as efficiently on the low fat ration as on the normal. With increasing levels of feeding the percentage recovered in the droppings was practically constant and characteristic of the individual hen.

At autopsy, approximately 5 weeks after the feeding of massive doses of vitamin A, the livers of the birds on the low fat ration contained about $\frac{1}{8}$ as much of the vitamin as those of the normal. This indicates that a substance or substances, removed by ether extraction of the ration, is necessary for the retention of vitamin A. —*Journal of Biological Chemistry.*

Next to bad accounts, dead stock is responsible for heavy losses to grain elevator operators handling sidelines.

Vitamin D and Egg Production of Turkeys

The vitamin D requirements of adult chickens have been studied by many investigators; however, there is little information available on the vitamin D requirements of turkeys.

The Washington Agricultural Experiment Station in a paper by Wilhelm, Robertson and Rhian states that it is usually recommended that turkey rations contain twice as much vitamin D as rations for chickens of the same age. The increased production of eggs and poults early in the season by supplying artificial light to the breeders has moved much of the egg production into the winter months. In many localities sunlight cannot be relied upon to furnish any appreciable quantity of vitamin D until well into the hatching season.

The purpose of this experiment was to determine the influence of different levels of vitamin D on the production and hatchability of turkey eggs.

The effect of vitamin D on egg production, hatchability, egg weight, and percentage soft-shelled eggs was determined by feeding 0, 100, 200, and 400 A.O.A.C. units of vitamin D from codliver oil per 100 grams of ration. Very low egg production and hatchability resulted when no vitamin D was added to the ration. No benefits were derived in egg production or hatchability from the addition of codliver oil beyond 100 units of vitamin D per 100 grams of ration.

The occurrence of soft-shelled eggs was inversely related to the level of vitamin D fed. When a ration containing 200 units of vitamin D and sunshine was supplied turkey hens previously deprived of vitamin D, a marked increase in egg production and hatchability occurred. Egg size was greatest in the group fed 400 units of vitamin D.

Price cutting is justified only when it is necessary to move dead stock to get it out of the way, never to be replaced.

A grain elevator may be a dangerous place for the uninitiated. There are so many turning wheels and running belts at points where a man may accidentally lean against them. Those entering an elevator for the first time are cautious about such things, but those regularly around such machinery may grow careless, with disastrous results. Only adequate guards can safeguard the careless worker or visitor.

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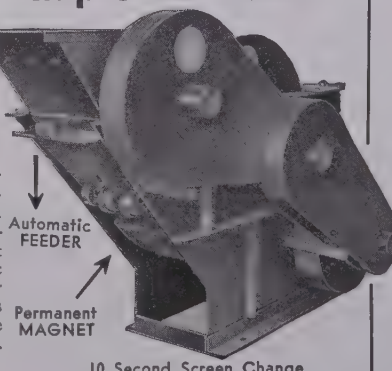
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Current Problems in Compounding Poultry Rations

By C. W. CARRICK, Department of Poultry Husbandry, Purdue University
Agricultural Experiment Station

New problems in feeding poultry have arisen in recent years because of changes in production practices which involve earlier hatching, confinement of both young stock and mature fowls, increased fall and winter laying, breeding for increased egg production and the desire for out-of-season hatching eggs.

More recently economic conditions have affected the relative costs of feeds along with other price changes.

SOYBEAN OIL MEAL has been demonstrated to have proteins of high biological value, but when it is substituted for an animal product like meat scraps, mineral supplements must be used. Furthermore, soybean oil meal is lacking in some of the vitamins necessary for growth, egg production and hatchability.

Excellent egg production has been obtained here from confined flocks fed upon a ration composed largely of corn and soybean oil meal but supplemented with alfalfa leaf meal, bone meal, salt, limestone, oyster shell and fish oil. Hatchability results were somewhat variable. Excellent results in both egg production and hatchability were obtained from turkeys on similar rations without fish oil, when small yards in bluegrass sod were provided.

The longer we continue to use unnecessary amounts of animal products in our rations, when a large part of them can be replaced with soybean oil meal properly supplemented, the longer relatively higher prices for such products will prevail.

RIBOFLAVIN.—Recent work at this Station indicates that riboflavin has received considerable more emphasis than is justified, at least so far as growth is concerned. We have some evidence at this Station that at least one new factor present in Argentine casein, which can be extracted with alcohol or ether, is a necessary growth factor. It is not present in dehydrated alfalfa leaf meal to any practicable extent, but is present in dried skim milk, liver meal, and yeast. Investigations are now in progress concerning its presence in milk concentrates after the butterfat, protein and lactose have been removed in distillers' dried solubles and in whey products. It is hoped from these investigations that it will be possible to find ways of replacing, to some extent at least, more expensive milk products and packing house by-products in rations that consist largely of corn and soybean oil meal.

DRIED SKIM MILK.—There seems to be no good evidence for using more than 4 or 5 per cent of dried skim milk in chick rations, even tho such rations contain relatively small amounts of meat scraps and relatively large amounts of corn and soybean oil meal. The following ration has given excellent growth with young chickens grown during the winter months and confined in brooder houses:

	Pounds
Ground yellow corn.....	63.5
Meat and bone scraps (50% pro.).....	5
Soybean oil meal (41% protein).....	20
Dried skim milk.....	5
Dehydrated alfalfa leaf meal.....	3
Steamed bone meal.....	1
Ground limestone (95% CaCO ₃).....	1
Salt mixture (9.5 and 0.5 MnSO ₄).....	0.5
Fish oil (85-D).....	1
	100

After six weeks the ration was further diluted with corn and adjustments made in bone meal, manganese and fish oil. This ration is higher in protein and grows chicks more rapidly than is necessary for the big crop of chicks started in the spring and grown for egg producers. In starting rations for broilers we are using 2 to 5 per cent of dried milk, depending upon the amount of meat scraps and soybean oil meal used.

POSSIBLE FEEDS that may be used to replace part of the milk in such rations are

liver meal, distillers' dried solubles and milk vitamin concentrates, all of which are available to some extent at present. In some of our experiments here 2 per cent of a certain sample liver meal was more effective in grain and soybean oil meal rations than 5 of dried skim milk, and in the experiments reported from the Minnesota Agricultural Experiment Station dried distillers' solubles were successfully used to replace dried milk in chick rations, so far as the growth factors were concerned. There are also encouraging results concerning the use of this product instead of milk in rations for breeders.

VITAMIN D.—With the increased price of vitamin D supplements and the ever increasing use of these products, much of it needlessly, a new irradiated product is a welcomed arrival on the market. It is irradiated cholesterol and is effective as a source of vitamin D for chickens. One should avoid, however, the use of products in which the vitamin D comes from irradiated ergosterol, which is effective for rats but not for chicks.

In connection with vitamin D it is well to keep in mind that late hatched turkeys have sometime; developed rickets, even when the conventional amount of fish oil was used. This is probably due to the lower intake of total feed in warm weather, so that the vitamin D intake is reduced. Possibly in warm weather we shall come to using rations for all kinds of poultry which have a higher proportion of the non-energy factors, because of the tremendous influence which environmental temperature has upon food intake.

Some recent work indicates that choline helps to prevent slipped tendons in young turkeys which have no pasture. Soybean oil meal is an excellent source of this vitamin and grains also supply some. Manganese, of course, must be supplied along with the choline to prevent slipped tendons, and an excess of bone meal or similar mineral products must be avoided.

Recent experiments at Purdue have shown that 15 parts each of bran and middling can be readily replaced in chick rations, as well as in laying rations, by using a combination of 25 parts of ground corn and 5 parts of soybean oil meal. In such rations manganese sulphate must be supplied to offset the manganese in bran and middlings.

"CONCENTRATES" containing 26, 32 or 37 per cent protein are an important item today. It is important in compounding these concentrates that one consider how the concentrate is to be consumed by the chicken, because it is the proportion consumed with other feeds that determines the balance, or lack of balance, in the ration. Not only should the proportion of protein in the final ration be considered, but also the vitamins and minerals. Our standard broiler starting ration No. 5 (Purdue Exten. Bul. 177, p. 10), for example, contains approximately 20 per cent of protein.

The ration contains 40 per cent of ground corn and if the ingredients other than corn are considered, the percentage of protein would be a little over 26 per cent, which might be looked upon as a 26 per cent protein concentrate. However, if one were to take equal parts of this assumed concentrate and ground corn, then the total protein content would only be about 18 per cent, which in our experience is too low for most rapid growth of indoor winter broilers, but if 60 pounds of this concentrate were mixed with 40 of ground corn it appears to be adequate.

If with this same broiler ration we omit the corn and also the bran and the middlings, the remaining ingredients would make up a concentrate of about 38 per cent protein. If 100 pounds of this concentrate (38 per cent protein) were mixed with 200 pounds of corn, then the total mixture would contain approximately 19

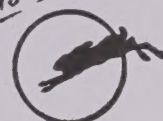
per cent protein. If, on the other hand, other grains than corn were included, or some bran and middlings, the protein content would be raised.

In formulating a concentrate one should either specify the amounts and kinds of feeds with which it is to be mixed or else make it self sufficient, so that when mixed with a definite amount of corn only, the minimum standards for protein, vitamins, and minerals would still be met. This is just a matter of arithmetic, but it is often overlooked when making up formulas.

There is somewhat of a practical limit to the amount of soybean oil meal that can be used in high protein concentrates, because provision has to be made for adding some vitamin supplements when only small amounts of milk products and meat products are included. Possibly the price of soybean oil meal should encourage us to utilize it to a larger extent by putting out lower protein supplements designed to be fed with smaller proportions of home mixed grains. In any event, the final ration as consumed must be taken into account in arriving at the formula for a concentrate.

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Protein Supplements for Dairy Cows

By R. W. BRATTON, G. W. SALISBURY and F. B. MORRISON, Department of Animal Husbandry, Cornell University, at Cornell Nutrition Conference, Ithaca, N. Y.

Numerous experiments have proven that for swine and poultry, or for rats (used as laboratory test animals), the quality or kind of protein in a ration may be fully as important as the amount. Until recently there has been but little information available as to whether or not the quality of protein is of similar importance in dairy rations composed of the common feeds.

In experiments conducted some years ago by Hart and associates at the University of Wisconsin there was little difference in the efficiency of corn gluten feed, linseed meal, cottonseed meal, or distillers' corn dried grains as protein supplements. On the other hand, when corn stover was the only roughage, corn gluten feed was distinctly inferior to the protein supplements that provided protein of better quality. These experiments indicated that when a considerable part of the roughage was legume, the quality of protein in the concentrate mixture was not of great importance. This conclusion has been confirmed by the excellent production of milk secured on a ration of only ground corn, alfalfa hay and bone meal in recent experiments by Professor C. F. Huffman and associates at Michigan State College.

Experiments conducted here some years ago by Professor L. A. Maynard and associates showed that the quality of protein was satisfactory for dairy cows in a ration with non-legume roughage (timothy and corn silage) fed with a concentrate mixture composed of linseed meal, wheat bran, corn and oats. The protein in this ration was utilized as efficiently as when clover hay was fed in place of the timothy.

Most dairy experts have recommended the use of a considerable variety of feeds in making up a concentrate mixture for dairy cows. This variety in sources of protein generally serves to provide protein of better quality than would be furnished by a simple mixture of grain and grain by-products.

THE SERIES OF FOUR EXPERIMENTS reported here was undertaken to determine whether or not the quality of protein in the concentrate mixture was of importance in dairy rations containing practically no legume roughage.

In order to study this problem a simple concentrate mixture of corn, oats, corn gluten feed, and corn gluten meal, which would furnish poor-quality protein for non-ruminants, was compared with a much more complex mixture. The protein in this latter mixture would be of much better quality for non-ruminants. The complex mixture contained corn, oats, corn gluten feed, soybean oil meal, linseed meal, corn distillers' dried grains and cottonseed meal. During the first three experiments no molasses was mixed with these concentrates; during the last experiment 5% of cane molasses was used.

THE ROUGHAGES used were corn silage and good quality early cut mixed timothy clover hay, with the latter containing not more than 20% legume. The hay was fed at the rate of 1 lb. for each 100 lbs. of body weight and the silage at the rate of 3 lbs. per 100 lbs. body weight. The concentrates were fed so as to just supply the remainder of the digestible protein requirements of the individual cows. These protein requirements were approximately 0.6 lb. for 1,000 lbs. body weight for maintenance plus 1.25 x the calculated amount of protein in the milk. This level of protein feeding necessitated a 13% digestible protein content in the concentrate mixture and the mixture was consumed at the rate of 1 lb. for each 2.8 lbs. of milk produced.

This somewhat low level of protein feeding was considered advisable because at too high levels of protein feeding quality is completely masked. To make the conditions more rigorous and to allow the quality factor to operate, this

protein level, which is somewhat below that recommended by the upper limits of the Morrison Standards, was used.

These rations were fed in experimental periods varying from 98 to 140 days during the winter months and with a total of 38 cows in each group. To date the average daily yield of 4% fat-corrected milk has been 36.08 lbs. for the cows on the poor-quality protein ration and 36.45 lbs. for the cows on the good-quality protein ration. Body weights have been satisfactorily maintained. Differences in palatability between these two rations have not been observable. The results obtained from these concentrate mixtures do not indicate that any important decreases in production are to be expected when a concentrate mixture like this poor-quality protein mixture is fed with such roughages as timothy-clover mixed hay and corn silage. How long such rations could be fed with comparable results cannot be definitely stated. This phase of the problem is receiving attention at the present time.

Recent investigations at the University of Wisconsin by Professor I. W. Rupel and associates with growing heifers show that a ration similar to the poor-quality protein ration we have used resulted in gains which compared favorably with those obtained when linseed meal and wheat bran were used.

THE PROTEIN OF ALFALFA HAY has been reported to be inadequate for the support of lactation in rats probably due to insufficient cystine. In Michigan experiments with lactating cows receiving only alfalfa hay there was no beneficial effect from the feeding of cystine.

LINSEED CAKE — English experiments have been reported in which it was concluded that linseed cake was one of the poorest in quality of protein as measured by nitrogen balance studies with milking cows. Since linseed meal has long been considered one of the best protein supplements for dairy cows and other ruminants, much further data seem necessary before we should reach any conclusion to the contrary. Also, in the recent studies with growing lambs here by Professors Miller and Morrison, the efficiency of the protein of linseed meal has been as high as that of well-cooked soybean oil meal, when fed in rations containing no legume roughage.

Recommendations concerning the use of the protein supplements most generally available can be somewhat broader than in the past as regards quality of protein.

THE CORN GLUTEN products would appear to be quite satisfactory when used in rather large quantities, even in a ration containing only a small amount of legume forage.

SOYBEAN OIL MEAL still remains a source of good-quality protein. However, the present solvent-process meal is extremely low in fat and consequently this factor may limit the extent to which it can be advisedly used in milking rations.

The same can be said for much of the corn distillers' dried grains at the present time.

COTTONSEED MEAL is a good protein supplement and it can be used in large quantities in dairy rations if good-quality roughage is

supplied. The early work which was unfavorable to cottonseed meal now appears to be the result of a vitamin A deficiency which can be easily corrected by feeding good-quality roughage.

Brewers' grains, dried, and coconut oil meal may be used quite satisfactorily.

Ground soybeans are practically as good as soybean oil meal. When fed in rather large quantities, 25% of the concentrate mixture, it has been reported by the Indiana Station that they will increase the fat test of the milk.

At the present time there does not appear to be much difference in the relative value for milking cows of the protein in commonly used protein supplements.

Changes in composition of protein supplements as a result of changing practices in processing should not be lost sight of in the future.

Digestibility of Ration Components Reduced by Molasses

In a series of three digestion trials at the Oklahoma Agricultural Experiment Station using four lambs in each trial, 230 gms. of molasses was substituted for the same amount of corn in a corn-alfalfa hay ration and for the same amount of oats in an oats-alfalfa hay ration. The following observations were made:

The digestibility of fat was lowered to a highly significant degree, 18.3 per cent in the corn ration and 17 per cent in the oats ration.

The digestion of protein was reduced, but not significantly, in the corn ration. In the oats ration it was reduced 4.6 per cent, a highly significant amount.

In the corn ration, the average crude-fiber and nitrogen-free-extract coefficients were not lowered in significant amounts. Neither were they in the oats ration when the three trials are considered together, altho in the third trial the digestion of the nitrogen free extract was reduced to a highly significant extent.

The fat and fiber in the oats ration were digested more completely than were the smaller amounts of fat and fiber in the corn ration. The difference was highly significant.

N-W Feed Mfrs. Meet

About 60 members of the Northwest Feed Manufacturers & Distributors Ass'n met at dinner at the Curtis Hotel, Minneapolis, Minn., Nov. 18, when Prof. J. O. Christianson of the University of Minnesota delivered an address urging feed men to fight complacency. The strongest opposition should be marshaled against any encroachment on the church, the home, freedom of speech, freedom of assembly and freedom of enterprise, he said, pointing to the dangers that threaten this nation from within.

Consideration was given to a suggestion from the executive committee of the American Feed Manufacturers Ass'n that bookings be limited to 30 days with a 30-day extension during the present period of emergency. It was pointed out that many manufacturers have gone on an immediate shipping basis generally with bookings not to exceed 30 days in extreme cases, and no extensions, because of existing uncertainties. There was considerable discussion of the topic but no specific recommendations were made by the group.

Sec'y Stanwood Osgood reports 45 firms as holding paid-up memberships. The annual dues are only \$5.



Corn Gluten Feed, Corn Oil Cake Meal,
Brewers' Dried Grains Malt Sprouts
ANHEUSER-BUSCH ST. LOUIS

Flax Feed Definitions

The Ass'n of American Feed Control Officials has adopted the following, as contained in the report of its executive committee:

The executive committee moves the adoption of the following definitions for linseed and flax products as tentative, with the understanding that resolution No. 7 applying to linseed oil meal will be deleted:

Ground Flaxseed or Flaxseed Meal is the product obtained by grinding flaxseed which has been screened and cleaned of weed seeds and other foreign materials by the most improved commercial process; the final product must contain less than 6 per cent of weed seeds and other foreign materials; and provided further that no portion of the stated 6 per cent of weed seeds and other foreign materials shall have been deliberately added.

Per Cent Protein Linseed Oil Cake or Per Cent Protein Linseed Oil Chips is the product obtained in the removal of part of the oil from ground flaxseed as described above. It shall not contain more than 0.5 per cent of acid insoluble ash. If a name descriptive of the process of manufacture, such as hydraulic, mechanical, or solvent extracted, be used, the product must correspond thereto.

Per Cent Protein Linseed Oil Meal is finely ground Linseed Oil Cake or finely ground Linseed Oil Chips.

Per Cent Protein Linseed Cubes or Pellets, processed thru a cubing or pelleting machine, must be firm but not flinty, of sweet odor, free of mold, and when ground must produce linseed oil meal as described above.

Flaxseed Screenings Oilfeed is the ground product obtained after extraction of part of the oil by crushing, cooking, and hydraulic or mechanical pressure, or by crushing, heating and the use of solvents, from the smaller imperfect flaxseed, weed seeds and other foreign materials having value, separated in cleaning flaxseed.

Per Cent Protein Linseed Feed is a mixture of linseed oil meal with flaxseed screenings oil feed, or other flaxseed by-products, or both.

Flax Plant By-Product is that portion of the flax plant remaining after the separation of the seed, the bast fiber and a portion of the shives, and consists of flax shives, flax pods, broken and immature flax seeds, and the cortical tissues of the stem.

Feed Prices

The following table shows the closing bid price each week for January futures of standard bran, gray shorts, cottonseed meal, soybean oil meal; spot bran, middlings, No. 1 fine ground alfalfa meal, in dollars per ton; No. 2 yellow corn, No. 2 yellow soybeans, in cents per bushel:

	Minneapolis		Kansas City	
	Bran	Midds	Bran	Shorts
Sept. 6.....	30.00	30.00	28.10	29.40
Sept. 13.....	31.00	31.00	28.75	29.80
Sept. 20.....	29.50	30.50	27.60	28.60
Sept. 27.....	29.50	29.50	27.60	29.40
Oct. 4.....	28.50	28.00	27.25	28.65
Oct. 11.....	27.00	27.00	26.35	28.25
Oct. 18.....	25.70	25.70	26.40	28.50
Oct. 25.....	25.50	25.50	25.75	27.25
Nov. 1.....	28.00	28.00	27.80	28.75
Nov. 8.....	29.50	29.50	28.20	30.10
Nov. 15.....	30.00	29.50	27.40	29.30
Nov. 22.....	29.75	29.50	27.70	29.40

	St. Louis*		Chicago Soy-beans	†Memphis Soy-meal
	Bran	Shorts		
Sept. 6.....	31.20	31.65	...	36.90
Sept. 13.....	31.90	32.00	...	39.50
Sept. 20.....	30.70	30.75	179	34.60
Sept. 27.....	31.55	31.60	186	36.20
Oct. 4.....	30.10	30.60	...	34.95
Oct. 11.....	29.40	30.35	168½	33.25
Oct. 18.....	29.60	30.65	157½	32.85
Oct. 25.....	28.85	29.10	154	31.75
Nov. 1.....	30.80	31.00	161	33.05
Nov. 8.....	31.35	32.15	168¾	36.45
Nov. 15.....	30.60	31.35	159½	33.90
Nov. 22.....	30.90	31.50	159	34.00

	Cottonseed Meal		Kansas City Alfalfa	Chicago Corn
	Ft. Worth	Memphis		
Sept. 6.....	42.00	42.70	26.20	76¾
Sept. 13.....	50.00	43.75	26.20	76¾
Sept. 20.....	52.00	38.50	27.20	74¾
Sept. 27.....	48.00	39.75	27.20	74
Oct. 4.....	47.00	38.40	28.20	72¾
Oct. 11.....	46.00	35.95	27.20	68
Oct. 18.....	44.00	36.25	27.20	70¼
Oct. 25.....	42.00	36.00	28.20	72¾
Nov. 1.....	42.00	37.25	28.20	74½
Nov. 8.....	42.00	38.00	28.20	76¾
Nov. 15.....	43.00	36.75	28.20	72
Nov. 22.....	43.00	36.15	28.20	72

*St. Louis bran basis Chicago delivery; shorts St. Louis delivery. †Decatur, Ill., delivery.

Recent Developments in Nutritional Research

By PAUL H. PHILLIPS, department of biochemistry, University of Wisconsin, before Western Grain & Feed Ass'n

(Continued from page 359)

VITAMIN "A" NUTRITION.—A series of rather significant results has been obtained in studies of vitamin nutrition of cattle. Moore of Michigan has contributed much to our knowledge on the effects of a vitamin A deficiency upon the eye of the bovine. Concurrently with the changes in the eye, there is general emaciation, roughened hair coat and scurfy skin. These symptoms are most frequently seen in the growing bovine but not infrequently in the mature animal and even in the milking cow.

It has been taken for granted that vitamin A had little practical significance where the cattle ration consisted of hay and yellow corn. A series of farmer herd analyses last winter convinced us that even when such a ration is fed the dairy cow may be low in vitamin A and respond to vitamin A therapy. During the past spring and summer an occasional young calf, 3-6 months of age, has shown that it did not have sufficient vitamin A even when fed an excellent bright green alfalfa hay. That there is a steady and progressive loss in vitamin A as well as carotene is shown in the next slide. This drop in vitamin A can be stopped by supplementing with shark liver oil and there is an improvement in their blood vitamin C picture.

Vitamin A nutrition is of prime importance in feeding the young calf. If one examines the blood of new born calves several interesting facts appear. The vitamin C values are abnormally high. They invariably return to normal values within 24 hours after birth. On the other hand the vitamin A values are surprisingly enough extremely low. So low, in fact, that if a readily available source of A was not provided the new born calf would develop vitamin A deficiency symptoms within several days. Recent research thus indicates that the new born calf is vitamin A deficient at birth. The work of McKay indicates the same holds true for the young new born dog. This raises the question as to whether mammals may not generally arrive at birth with deficient stores of vitamin A. This, in my opinion, if of great possible significance in human nutrition.

With these facts in mind it is not strange therefore that calves may and frequently do suffer from a subminimal vitamin A intake. The price of milk determines the health of the dairy calf. When the price is high a very limited amount of milk is used for calf feeding purposes. It is of interest to review the situation. Colostrum milk contains large quantities of vitamin A. It is therefore absolutely essential that the new born calf get as much of this milk as it can possibly handle. The ingestion of colostrum milk quickly brings the blood vitamin A to normal in about 12 hours. The continued ingestion of colostrum gives the calf a chance to build up a rapid store of vitamin A. Under natural conditions this store would be conserved because the calf would have access to whole milk. Under dairy conditions the calf is quickly placed on a limited amount of whole milk feeding as soon as the colostrum milk feeding period is over. Very soon skim milk replaces the whole milk. In times of war one can quickly see the skim milk feeding reduced. The young calf then is forced to grains and hay long before his digestive machinery has been developed for handling his nutritive requirements in that way. As a result of this system of feeding calves frequently go off feed and become unthrifty. The coat becomes roughened and the skin "scurfy." Scours usually occur and in severe cases lung trouble and pneumonia develop. The calf dies from the latter cause but the primary seat of the trouble is in the diet. The calf has been starved to death for want of vitamin A. Farmer herds afflicted with calf scours throughout Wisconsin last year

were at least 90% amenable in part to vitamin A feeding.

In some cases the calves showed marked improvement in general vigor and gross appearance, but the scouring continued. Because of observations made on the histopathology of certain of the B deficiencies in laboratory animals it was considered advisable to try vitamin B complex supplementation. Capsules containing 10 mgs. of nicotine acid, 5 mgs. of choline, 5 mgs. of pantothenic acid, 1 mg. of riboflavin and 1 mg. of thiamin were given at the rate of one per day. The "scours" disappeared very promptly and the calves again resumed their normal gains.

In these experiments we used shark liver oil with a vitamin A potency of 7,500 to 15,000 I.U. of vitamin A. (We were generously supplied with these oils through the courtesy of Bioproducts, Inc., Astoria, Oregon, and Shark Industries, Miami, Florida.) Fifteen cc. of the 15,000 unit oil is ample to meet the requirements of the dairy cow or bull. One cc. per day will maintain the calf.

Of course there are other ways of supplying vitamin A for the cattle. Good quality green hay and silage will usually meet all the vitamin A needs of the bovine. These feeds must contain appreciable amounts of carotene because their value in supplying vitamin A is entirely dependent upon the amount of yellow coloring pigment or carotene that is present. A fair index of the carotene is the amount of green color present since the green and yellow pigments are very closely associated. Corn silage should be made in the early dough stage for maximum carotene preservation. The grass or legume silages are excellent in this regard.

Dried Citrus Peel and Pulp in Cattle Fattening Rations

In a 154-day feeding trial (third test), at the experiment station, Beeville, Tex., it was more profitable to feed ground ear corn, shuck included, than to replace a portion of the corn with either 25 or 59 per cent of citrus feed when both of the two kinds of feeds were charged at the same price per ton.

All groups received the same amounts of cottonseed meal and good quality sorgo silage was fed according to appetite. The lot which received 59% of citrus feed and 41% of ear corn as the grain portion of the ration, consumed only 90% as much total concentrates as the check group, and 91% as much concentrates as the lot in which 25% of the ground ear corn was replaced by the dried citrus peel and pulp. This result agrees with previous work in indicating that a ration containing a large amount of citrus feed is less palatable than one consisting largely of ground ear corn.

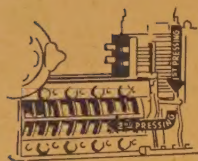
The steers fed 100 per cent ground ear corn, and those fed 75 per cent ground ear corn and 25% citrus feed made practically equal gains and returned carcasses of almost identical grade, which results indicate that as much as 25% of ground ear corn may be replaced in the fattening ration with citrus feed provided feed prices permit of such substitution.

The average productive value of the dried citrus peel and pulp in the two comparisons available in this trial was 67.9 therms per 100 pounds feed as compared to a calculated productive value of 71.1 therms per 100 pounds of ground ear corn. The average productive value of the citrus feed for six comparisons in the three tests which have been completed has been 70.56 therms per 100 pounds.

Some elevator contractors have suggested use of an ammeter in the leg motor circuit as a means of showing whether a leg is carrying a full load. The instrument records the amount of electrical current being consumed. It should be marked to show the point of register when the leg is elevating grain at maximum capacity. Maybe the ammeter could be wired also to give warning when the leg motor is being overloaded.

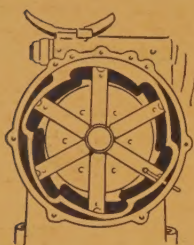
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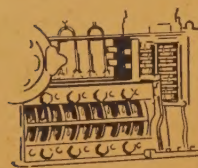
DOUBLE PRESSING

The first pressing starts in the hopper feeder and vertical barrel and removes about 50% of the oil, then the horizontal barrel removes the rest of the available oil, leaving about 4% in the cake. Double pressing is found in Super-Duo Expellers.



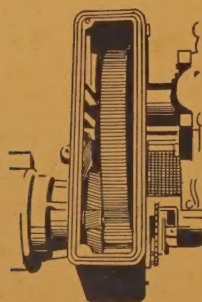
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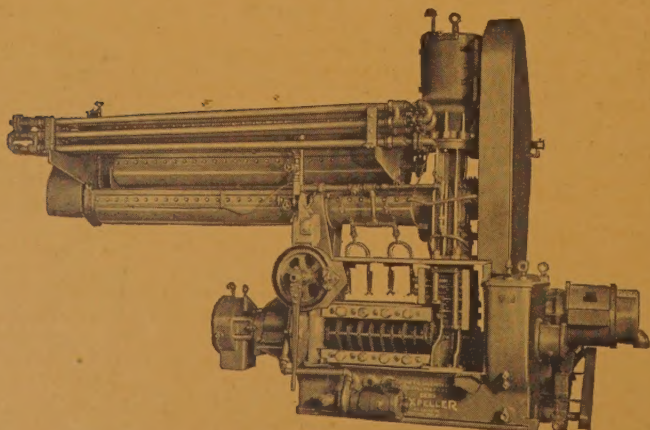


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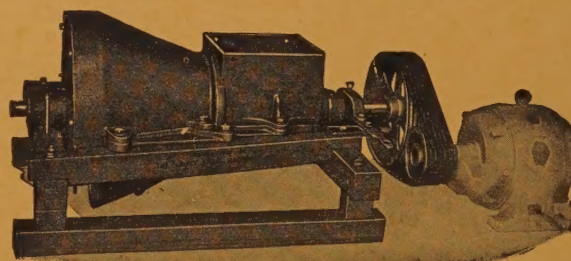
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